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Feasibility Report for

# **2018 Street and Alley Improvement Project**

## **City of Two Harbors, MN**

January 18, 2018

**Prepared by:**

Bolton & Menk, Inc.  
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# Certification

Feasibility Report

for

2018 Street and Alley Improvement Project

City of Two Harbors  
Two Harbors, Minnesota  
Bolton & Menk Project No. N16.115004

January 2018

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By:



Joseph R. Rhein, P.E.  
License No. 23781

Date: January 18, 2018

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## I. INTRODUCTION

### A. Background

The City of Two Harbors adopted a Capital Improvement Plan (CIP) in September 2016 to identify potential improvements for the 5-year period of 2017-2021. Based on the CIP, a proposed 2017 Street and Alley Improvements project was developed. A public hearing was held for the project, and the improvements were ordered in March 2017. Bids on the project were received in June 2017. However, bids were higher than anticipated, and as a result the project was cancelled.

During the summer of 2017 the City updated its CIP to cover the 5-year period of 2018-2022. This included incorporating information learned through development of the 2017 Street and Alley Improvement project. The updated CIP identified a proposed street and alley project for 2018. The 2018 project would include portions of the cancelled 2017 project, with expanded scope to include additional elements of infrastructure, as well as the addition of three blocks of alleys.

On October 5, 2017, the City Council ordered preparation of a Feasibility Report on the proposed 2018 Street and Alley Improvement Project. On December 5, 2017 the City held an open house meeting on the proposed 2018-2022 CIP. A public hearing on the proposed 2018 Street and Alley Improvement Project has been scheduled for January 29, 2018.

### B. Legal Basis For Report

This Report is prepared pursuant to a Resolution approved by the Two Harbors City Council calling for the preparation of a preliminary engineering report, pursuant to Minnesota Statutes Section 429.031.

This Report is prepared in accordance with said Section 429.031. Specifically, this report hereby advises the City Council, in a preliminary way, whether the proposed improvement is necessary, cost-effective and feasible, and whether it should best be made as proposed or in connection with some other improvement.

This Report also includes the estimated cost of the improvements as recommended.

The compensation paid to Bolton & Menk, Inc. for preparing this report is based on the following factors:

1. The time and labor required.
2. The experience and knowledge of the preparer.
3. The complexity and novelty of the problems involved.
4. The extent of the responsibilities assumed.

The compensation paid to Bolton & Menk, Inc. for preparing this report is not based on a percentage of the estimated cost of the improvement.

### C. Project Area

Eight blocks of streets and alleys are included in the proposed Project. The locations are listed below, and are shown graphically on Figure 1 in Appendix A.

- 9<sup>th</sup> Avenue – 6<sup>th</sup> Street to 7<sup>th</sup> Street
- 9<sup>th</sup> Street – 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue
- 13<sup>th</sup> Street – 7<sup>th</sup> Avenue to 8<sup>th</sup> Avenue
- Alley North of 2<sup>nd</sup> Avenue – 4<sup>th</sup> Street to 5<sup>th</sup> Street

- Alley North of 3<sup>rd</sup> Avenue – 3<sup>rd</sup> Street to 4<sup>th</sup> Street
- Alley North of 4<sup>th</sup> Avenue – 5<sup>th</sup> Street to 6<sup>th</sup> Street
- Alley North of 7<sup>th</sup> Avenue – 7<sup>th</sup> Street to 8<sup>th</sup> Street
- Alley North of 8<sup>th</sup> Avenue – 7<sup>th</sup> Street to 8<sup>th</sup> Street

## II. EXISTING CONDITIONS

Existing conditions within the project area were documented by review of existing plans, performing topographic survey and field investigation of the site and structures, geotechnical exploration, and televising of the sanitary sewer system.

Existing conditions for the individual blocks of the proposed project are shown on Figures 3 through 10 in Appendix A.

Additional information on each aspect of the existing conditions are provided below.

### A. Avenues/Streets

#### 1. 9<sup>th</sup> Avenue

9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street exists as an urban road with bituminous surfacing. The bituminous pavement appears to have been laid over an older, concrete pavement. This block is approximately 475-feet long from the center of 6<sup>th</sup> Street to the center of 7<sup>th</sup> Street. There is 6-inch high concrete curb and gutter along both sides of 9<sup>th</sup> Avenue, and the street is approximately 26-feet wide between the curb faces.

This block of 9<sup>th</sup> Avenue is signed for No Parking along the north side.

One soil boring was taken within the existing paved section of 9<sup>th</sup> Avenue. The boring found approximately 2-inches of bituminous pavement over what was termed “apparent concrete aggregate base”. This would seem to indicate the condition of the older underlying concrete pavement is severely deteriorated.

There is one driveway connection to this segment of 9<sup>th</sup> Avenue. Access for all other properties on this block are off the alleys or side streets.

#### 2. 9<sup>th</sup> Street

9<sup>th</sup> Street between 10<sup>th</sup> Avenue and 11<sup>th</sup> Avenue exists as a bituminous-surfaced road with no curb. This block is approximately 370-feet long from the center of 10<sup>th</sup> Avenue to the center of 11<sup>th</sup> Avenue. The existing pavement varies in width, and is mostly between 26 to 28-feet wide from edge to edge.

There are not any parking restrictions currently signed along this block of 9<sup>th</sup> Street.

One soil boring was taken within the existing paved section of 9<sup>th</sup> Street. The boring found approximately 3-inches of bituminous pavement over a sandy gravel layer. The existing pavement is severely distressed.

There are five driveway connections to this segment of 9<sup>th</sup> Street. A public alley also connects to each side of 9<sup>th</sup> Street at the approximate midpoint of the block.

#### 3. 13<sup>th</sup> Street

13<sup>th</sup> Street between 7<sup>th</sup> Avenue and 8<sup>th</sup> Avenue exists as a bituminous-surfaced road. Existing concrete curb wraps around the south end of 13<sup>th</sup> Street at 7<sup>th</sup> Avenue. There is no other existing curb along this block. This block is approximately 370-feet long from the north edge of 7<sup>th</sup> Avenue to the center of 8<sup>th</sup> Avenue. The existing pavement varies in width, and is mostly between 26 to 28-feet wide from edge to edge.

There are not any parking restrictions currently signed along this block of 13<sup>th</sup> Street.

The existing pavement of 13<sup>th</sup> Street is severely distressed, and in many locations appears to be completely worn away. One soil boring was taken within the existing paved section of 9<sup>th</sup> Street. At the boring location bituminous pavement was found, with a thickness of approximately 1-1/2-inches, supported by sand with gravel.

There are five driveway connections to this segment of 13<sup>th</sup> Street. A public alley also connects to each side of 13<sup>th</sup> Street at the approximate midpoint of the block

## B. Alleys

There are five separate blocks of alleys in the proposed project. The alleys run in an east-west direction and connect from Street to Street. Each alley is located on public right-of-way (ROW) 20-feet in width.

There are numerous locations throughout the alleys where private landscaping encroaches onto the public ROW. Existing vegetation has also overgrown the edges of the alley surfacing in many spots, and in some areas the edges of the existing alley surfacing has worn away. As a result of these issues, the width of the existing surfacing in the alleys varies. The existing surfacing on all of the alleys is severely distressed. There is no existing curb on any of the alleys in the proposed project.

The majority of properties along the adjacent avenues have access for garages and off-street parking from the alleys. The driveways connecting to the alleys have a variety of widths, slopes, and surface types. In addition to use by the residents, the alleys are also used for trash collection services.

Specific information on each alley in the proposed project is as follows:

### 1. Alley North of 2<sup>nd</sup> Avenue

This alley has concrete pavement, with large areas of bituminous patches. This block is approximately 440-feet long from the edge of 4<sup>th</sup> Street to the edge of 5<sup>th</sup> Street.

One soil boring was taken within the alley. The boring found a concrete pavement approximately 5-inches thick, over an organic clay material.

### 2. Alley North of 3<sup>rd</sup> Avenue

This alley consists primarily of bituminous pavement, although an area in the middle appears to be maintained as a gravel surface. Concrete aprons exist at each end of the alley, connecting it with the street. This block is approximately 490-feet long from the edge of 3<sup>rd</sup> Street to the edge of 4<sup>th</sup> Street.

There is exposed ledge rock at the surface of the alley near 3<sup>rd</sup> Street. One soil boring was taken within the alley, at approximately mid-block. At the specific location taken, the boring found no pavement, but instead just a gravel/sand mixture. The boring also found weathered bedrock at a depth of approximately 7-feet below the surface.

### 3. Alley North of 4<sup>th</sup> Avenue

This alley has concrete pavement, with several bituminous patches. This block is approximately 440-feet long from the edge of 5<sup>th</sup> Street to the edge of 6<sup>th</sup> Street.

One soil boring was taken within the alley. The boring found a concrete pavement approximately 5-inches thick, over an silty sand material.

### 4. Alley North of 7<sup>th</sup> Avenue

This alley consists of bituminous pavement, with existing concrete aprons at each end connecting it with the street. This block is approximately 430-feet long from the edge of 7<sup>th</sup> Street to the edge of 8<sup>th</sup> Street.

One soil boring was taken within the alley. The boring found bituminous pavement of 1-1/2-inch approximate thickness, over a sandy material. The boring also noted a possible petroleum odor in the existing soil below the pavement.

#### 5. Alley North of 8<sup>th</sup> Avenue

This alley consists of bituminous pavement, with some areas worn away to gravel. Concrete aprons exist at each end of the alley, connecting it with the street. This block is approximately 430-feet long from the edge of 7<sup>th</sup> Street to the edge of 8<sup>th</sup> Street.

One soil boring was taken within the alley. At the specific location taken, the boring found no pavement, but instead just a gravel/sand mixture. It also noted the presence of organic material beneath the gravel.

### C. Sidewalks

Existing sidewalks within the project area along each segment of the proposed project are as follows:

#### 1. 9<sup>th</sup> Avenue

Public concrete sidewalks exist along both the north and south sides of 9<sup>th</sup> Avenue. The sidewalks are approximately 6-feet wide, with a grass boulevard of approximately 6-feet between the curb and sidewalk.

Private walks exist on most of the properties along 9<sup>th</sup> Avenue, extending from the house to the public sidewalk, and in several cases continuing on to the existing curb. The private walks are also concrete.

Public sidewalks also exist along 6<sup>th</sup> Street and 7<sup>th</sup> Street, and would also be impacted within the project limits of this block of 9<sup>th</sup> Avenue. The public sidewalks along 6<sup>th</sup> Street and 7<sup>th</sup> Street exist along both sides of each street.

#### 2. 9<sup>th</sup> Street

Public sidewalks exist along both sides of 10<sup>th</sup> Avenue. The sidewalks on the north side of 10<sup>th</sup> Avenue would be impacted by the project on this block of 9<sup>th</sup> Street.

No other public or private sidewalks are within the project limits.

#### 3. 13<sup>th</sup> Street

No public or private sidewalks are within the proposed project limits.

#### 4. Alley North of 2<sup>nd</sup> Avenue

Public sidewalks exist along the west side of 4<sup>th</sup> Street and the east side of 5<sup>th</sup> Street. The portions adjacent to each end of the alley would be within the project limits.

No public or private sidewalks exist within the alley itself.

#### 5. Alley North of 3<sup>rd</sup> Avenue

Public sidewalks exist along the west side of 3<sup>rd</sup> Street and the east side of 4<sup>th</sup> Street. The portions adjacent to each end of the alley would be within the project limits.

No public or private sidewalks exist within the alley itself.

#### 6. Alley North of 4<sup>th</sup> Avenue

Public sidewalks exist along the west side of 5<sup>th</sup> Street and the east side of 6<sup>th</sup> Street. The portions adjacent to each end of the alley would be within the project limits.

No public or private sidewalks exist within the alley itself.



#### 7. Alley North of 7<sup>th</sup> Avenue

A public sidewalk exists along the west side of 7<sup>th</sup> Street. The portion adjacent to the end of the alley would be within the project limits.

No public sidewalk exists along the east side of 8<sup>th</sup> Street, nor do any public or private sidewalks exist within the alley itself.

#### 8. Alley North of 8<sup>th</sup> Avenue

A public sidewalk exists along the west side of 7<sup>th</sup> Street. The portion adjacent to the end of the alley would be within the project limits.

No public sidewalk exists along the east side of 8<sup>th</sup> Street, nor do any public or private sidewalks exist within the alley itself.

### D. Water System

Within the eight individual blocks in the proposed project, water system components only exist along 9<sup>th</sup> Avenue and 13<sup>th</sup> Street. Specific information on each of those blocks is provided below:

#### 1. 9<sup>th</sup> Avenue

Water main exists along the entire length of 9<sup>th</sup> Avenue within the project limits. The water main is a sub-standard diameter of only 4-inches, and is located under the north half of the pavement in the avenue. All properties in the block of 9<sup>th</sup> Avenue from 6<sup>th</sup> Street to 7<sup>th</sup> Street connect to this existing water main by individual services.

The 4-inch water main extends across 6<sup>th</sup> Street, where it then bends to the south, connecting to a newer 6-inch diameter water main installed along the block of 9<sup>th</sup> Avenue between 5<sup>th</sup> and 6<sup>th</sup> Streets when that was reconstructed in 1994.

#### 2. 13<sup>th</sup> Street

Water main exists in the north-south direction along the east side of 13<sup>th</sup> Street, connecting to existing water mains in the east-west directions along both 7<sup>th</sup> Avenue and 8<sup>th</sup> Avenue. Based on the investigation for this Report, no existing operational issues or deficiencies were identified for the existing water main along 13<sup>th</sup> Street.

### E. Sanitary Sewer

Within the eight individual blocks in the proposed project, sanitary sewer only exists along 9<sup>th</sup> Avenue and 13<sup>th</sup> Street. Specific information on each of those blocks is provided below:

#### 1. 9<sup>th</sup> Avenue

Sanitary sewer exists along the entire length of 9<sup>th</sup> Avenue within the project limits. The sewer main is clay pipe, 8-inch diameter, and is located approximately under the center of the existing pavement. It flows by gravity from west to east. All properties in the block of 9<sup>th</sup> Avenue from 6<sup>th</sup> Street to 7<sup>th</sup> Street connect to this sewer main by individual services. The sanitary sewer on 9<sup>th</sup> Avenue connects to a sanitary sewer main along the east side of 6<sup>th</sup> Street, which is 24-inch diameter and flows from north to south.

The existing 8-inch diameter sewer on 9<sup>th</sup> Avenue was televised as part of the investigation for the proposed project. Approximately 1/3 of the main was not accessible due to severe root clogging issues. The portion that was able to be televised was in fair to poor conditions.

Manholes on the sanitary sewer along 9<sup>th</sup> Avenue within the proposed project limits are located on both the east and west sides of 6<sup>th</sup> Street, and the west side of 7<sup>th</sup> Street. The manholes were inspected for the project. The manhole on the east side of 6<sup>th</sup> Street was

found to be in poor condition, while the manholes on the west side of 6<sup>th</sup> Street and at 7<sup>th</sup> Street were in fair condition.

## 2.13<sup>th</sup> Street

Sanitary sewer exists in the alley between 7<sup>th</sup> and 8<sup>th</sup> Avenue, flowing from 15<sup>th</sup> Street across 14<sup>th</sup> and 13<sup>th</sup> Streets, and continuing east towards 11<sup>th</sup> Street. Within the project limits, a manhole exists in the middle of 13<sup>th</sup> Street, and also about 50 feet east of 13<sup>th</sup> Street, behind O'Reilly Auto Parts. These manholes were inspected. The manhole behind O'Reilly Auto Parts is older and in worse condition. The manhole in 13<sup>th</sup> Street is newer and in good condition.

The sanitary sewer main within the alley is 8-inch diameter clay pipe. It was televised from the manhole behind O'Reilly Auto Parts to the manhole near 14<sup>th</sup> Street. The line is in poor condition. Services for the two properties immediately west of 13<sup>th</sup> Street were observed to be within the proposed project limits. Those properties would be 1303 7<sup>th</sup> Avenue and 1302 8<sup>th</sup> Avenue. There were no services observed east of 13<sup>th</sup> Street within the project limits.

A sanitary sewer main also extends from the manhole in 13<sup>th</sup> Street north across 8<sup>th</sup> Avenue. That sewer main was televised and found to be newer and in good condition. No services were observed within the project limits. There are also no manholes within the project limits on this north-south sewer main.

## F. Other Utilities

### 1. Gas

Buried gas mains exist along the entire length of each of the five blocks of alleys in the proposed project. The gas mains were located prior to the survey performed for the project, and the locations were recorded. The gas mains generally run along the south edge of the existing alley pavement for the Alleys North of 2<sup>nd</sup>, 4<sup>th</sup>, and 8<sup>th</sup> Avenues, and generally along the north edge of the pavement in the Alleys North of 3<sup>rd</sup> and 7<sup>th</sup> Avenues. Individual service lines extend from the gas mains to each property.

Gas mains also cross 9<sup>th</sup> Street and 13<sup>th</sup> Street within the blocks in the proposed project at the location of the alleys. A gas main also crosses 9<sup>th</sup> Avenue along the west side of 7<sup>th</sup> Street within the proposed project limits. No services extend from the portions of the gas mains along 9<sup>th</sup> Street, 13<sup>th</sup> Street, or 9<sup>th</sup> Avenue within the project area.

The understanding of this Report is that the gas mains and services within the project area are constructed of plastic material, and are in good condition.

### 2. Electric

Overhead electric utility exists along the entire length of each of the five blocks of alleys in the proposed project. The utility poles are generally located along the north public ROW limit for the Alleys North of 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> Avenues, and generally along the south ROW limit in the Alleys North of 7<sup>th</sup> and 8<sup>th</sup> Avenues.

Along 9<sup>th</sup> Avenue, the only existing electric utility noted within the project area is along the east side of 7<sup>th</sup> Street, running in a north-south direction. No electric utility is located along 9<sup>th</sup> Avenue itself.

Along 9<sup>th</sup> Street, overhead utility crosses at the alley, with a small amount of underground electric located on the east side of 9<sup>th</sup> Street at the alley.

Along 13<sup>th</sup> Street, buried electric utility existing along the east side from 7<sup>th</sup> Avenue to the alley. An overhead utility line crosses 13<sup>th</sup> Street at the alley, and a buried electric line crosses 13<sup>th</sup> Street on the north side of 7<sup>th</sup> Avenue.

There are also overhead street lights located at a number of the intersections along the project segments. The lights are of various styles and heights, with lights on the alleys often mounted on the wooden utility poles.

## G. Drainage

Information on the existing drainage characteristics of each block in the proposed project is given below:

### 1. 9<sup>th</sup> Avenue

The front yards of the properties abutting 9<sup>th</sup> Avenue generally drain to the street, and 9<sup>th</sup> Avenue drains from west to east. Limited storm sewer is located at the intersections of 9<sup>th</sup> Avenue with 6<sup>th</sup> Street and 7<sup>th</sup> Street to collect surface water.

### 2. 9<sup>th</sup> Street

On the block of 9<sup>th</sup> Street between 10<sup>th</sup> Avenue and 11<sup>th</sup> Avenue, approximately the north 1/4 drains toward 11<sup>th</sup> Avenue. Catch basins are located in both the southwest and southeast corners of the intersection at 11<sup>th</sup> Avenue to collect surface water.

The south 3/4 of the block drains toward 10<sup>th</sup> Avenue. However, there is no storm sewer at 10<sup>th</sup> Avenue, and as a result surface water often stands at this intersection, particularly in the northwest corner, until it is deep enough to flow east down 10<sup>th</sup> Avenue. This standing water contributes to deterioration of the pavement at this intersection.

Although there are no curbs along this block of 9<sup>th</sup> Street, the boulevards of the adjacent properties are generally higher than the street surface, which results in surface water running along the edge of the existing pavement. However, a portion of the boulevard along the northern property on the east side of 9<sup>th</sup> Street is lower than the street surface, resulting in water leaving the street surface and flowing onto the boulevard.

There is an existing culvert crossing 9<sup>th</sup> Street on the north side of the alley, which carries water flowing from west to east in the ditch alongside the alley.

### 3. 13<sup>th</sup> Street

The block of 13<sup>th</sup> Street from 7<sup>th</sup> Avenue to 8<sup>th</sup> Avenue generally flows from north to south. The west half of the block essentially functions as a rural road. A drainage ditch exists along the entire west side of this block, draining water from 8<sup>th</sup> Avenue to 7<sup>th</sup> Avenue. An existing drainage ditch on the north side of 7<sup>th</sup> Avenue then receives this water and carries it from west to east. Culverts exist beneath the driveways on the west side of 13<sup>th</sup> Street, as well as across 13<sup>th</sup> Street on the north side of 7<sup>th</sup> Avenue.

On the east side of 13<sup>th</sup> Street, the boulevard of the property north of the alley is higher than the street, so surface water in this area generally flows on the street surface. However, the property south of the alley, O'Reilly Auto Parts, is lower than the street, resulting in the potential for runoff from the public street to flow onto the private property. From the washouts in the gravel along the north side of the driveway access to the O'Reilly property, this appears to happen with some frequency. Evidence indicates the water then flows across the O'Reilly parking lot, reaching the ditch on the north side of 7<sup>th</sup> Avenue.

#### 4. Alleys

a) Alley North of 2<sup>nd</sup> Avenue

There is a high point in the Alley North of 2<sup>nd</sup> Avenue between 4<sup>th</sup> Street and 5<sup>th</sup> Street. Approximately 1/3 the length of the alley drains toward 4<sup>th</sup> Street, while approximately 2/3 of the alley drains toward 5<sup>th</sup> Street.

The longitudinal grade from the high point to 4<sup>th</sup> Street is minimal. This may have been acceptable and functioned adequately when the concrete surfacing in the alley was new and in good condition. However, with the existing deteriorated state of the alley surfacing, drainage on this eastern portion of the alley is poorly defined, and it appears there may be areas where water is being held.

The existing concrete pavement on the alley is concave, with drainage generally flowing down the middle of the pavement.

No existing storm sewer is apparent in this alley.

b) Alley North of 3<sup>rd</sup> Avenue

The Alley North of 3<sup>rd</sup> Street climbs a fairly steep hill as it comes in for about the first 150 to 175 feet from 3<sup>rd</sup> Street, then crests a high point, and slopes back down more gently over the remaining 300 or so feet towards 4<sup>th</sup> Street.

The existing alley pavement from 4<sup>th</sup> Street toward the crest of the hill is relatively flat, or sloped slightly toward the north. Once the alley crests the hill and is coming down the steep slope toward 3<sup>rd</sup> Street, the pavement cross slope changes toward the south, as the water heads south once it reaches 3<sup>rd</sup> Street.

No existing storm sewer is apparent in this alley.

c) Alley North of 4<sup>th</sup> Avenue

The Alley North of 4<sup>th</sup> Avenue has a high point near the middle of the block between 5<sup>th</sup> Street and 6<sup>th</sup> Street, with approximately half of the alley draining toward the east and half draining toward the west. The longitudinal grades near the middle of this block of alley are very low. This may have functioned adequately when the concrete surfacing in the alley was new and in good condition. However, with the existing deteriorated state of the alley surfacing, drainage on this central portion of the alley is poor. The eastern 100 to 125 feet of this alley has a steeper slope toward 5<sup>th</sup> Street, which provides better drainage.

This alley has existing concave concrete pavement similar to the Alley North of 2<sup>nd</sup> Avenue, with surface drainage flowing down the middle of the pavement.

No existing storm sewer is apparent in this alley.

d) Alley North of 7<sup>th</sup> Avenue

The entire length of the block of the Alley North of 7<sup>th</sup> Avenue drains from 8<sup>th</sup> Street toward 7<sup>th</sup> Street. The longitudinal slope is relatively mild until the final 150 feet, where the slope increases downward toward 7<sup>th</sup> Street.

The existing pavement on this block of Alley is sloped toward the north over the entire length from 8<sup>th</sup> Street to 7<sup>th</sup> Street.

No existing storm sewer is apparent in this alley.

e) Alley North of 8<sup>th</sup> Avenue

On the block between 7<sup>th</sup> Street and 8<sup>th</sup> Street of the Alley North of 8<sup>th</sup> Avenue, the east half of the alley drains toward 7<sup>th</sup> Street. However, the west half of the block is relatively flat, and drainage is not well defined. Based on the survey and

field review, there appear to be areas do not drain and instead hold water on a regular basis.

The existing pavement on this block of Alley is sloped toward the north over the entire length from 8<sup>th</sup> Street to 7<sup>th</sup> Street.

No existing storm sewer is apparent in this alley.

#### H. Trees/Landscaping

##### 1. 9<sup>th</sup> Avenue

There are a number of existing trees along 9<sup>th</sup> Avenue, in the boulevard area between the sidewalk and curb. The trees vary in type and in size, with some of the larger trees causing damage to the existing sidewalks and curb. There are also several trees beyond the existing sidewalks that are within the public ROW. Some of these trees are located very close to the existing sewer and water services extending into the adjacent properties. The extreme root problems noted in the sanitary sewer main along this block is almost certainly attributable to the trees located along the boulevards and near the sewer services. It is likely some of the individual sewer services are also experiencing some level of blockage due to tree roots.

##### 2. 9<sup>th</sup> Street

The area of the public ROW is relatively clear of trees and landscaping. There are about a half dozen small (less than 4-inch diameter) trees along the east side of the street within the ROW. There is also one larger coniferous tree, approximately 12-15 inch trunk diameter, on the property north of the alley on the east side of the street.

##### 3. 13<sup>th</sup> Street

No trees or landscaping were recorded within the public ROW in the survey done for the proposed project.

##### 4. Alleys

As noted previously, there are several instances of landscaping, bushes, and trees growing along the sides of the alleys within the public ROW. These landscaping features reduce the effective width of the alley, and the taller items can also cause conflict with the overhead utilities.

In addition to the vegetative growth, there are also a small number of landscape items such as small retaining walls made of block, stone, or timbers, located within the public alley ROW. These elements can reduce the width of the alley, interfere with passage, and increase the potential for vehicular damage.

### III. PROPOSED IMPROVEMENTS

The proposed typical sections for the 2018 Street and Alley Improvement Project are shown on Figure 2 included in Appendix A of this Report. In addition, the proposed improvements for each of the eight individual blocks of the Project are shown on Figures 3 – 10 in Appendix A.

Further information on the proposed improvements for the Project are given below.

#### A. Street Width

When considering the eight blocks within the project, the recommended width of the proposed improvements must be determined.

The Standard Specifications and Construction Requirements for the City of Two Harbors, dated June 2005, includes a standard typical street section. The section contains concrete curb and is a width of 33-feet from back of curb to back of curb.

The City of Two Harbors Special Assessment Policy, adopted February 2017, addresses street width under Section 10.C.1. The policy states that the June 2005 Standard for street width should be used for new construction projects. The policy states that reconstructed streets should be built to their existing width where feasible, unless there is petition by residents or advisement from the City Engineer or Public Works Superintendent for a different width.

Based on these existing documents, and the measurements of the existing streets obtained during the field survey, following are the recommendations for the proposed widths on 9<sup>th</sup> Avenue, 9<sup>th</sup> Street, and 13<sup>th</sup> Street in the 2018 Street and Alley Improvement Project:

#### 1. 9<sup>th</sup> Avenue

9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street contains concrete curb, and has an existing width of approximately 26-feet from face of curb to face of curb. This existing block is signed for No Parking along its north side.

Per the Special Assessment Policy, this block of 9<sup>th</sup> Avenue could be reconstructed at a width of 26-feet from face of curb to face of curb, to match the existing condition. However, from an engineering design standpoint, a 26-foot width is not sufficient to allow parking on both sides of the street while maintaining a travel lane. Therefore, if 9<sup>th</sup> Avenue were reconstructed at 26-foot width, the existing parking restriction on the north side of the street would need to remain in place.

To reconstruct this block of 9<sup>th</sup> Avenue to the 2005 Standard Specification width of 33-feet from back of curb to back of curb, the street would need to be widened 3-feet on each side. That is what was done when the blocks of 9<sup>th</sup> Avenue from 4<sup>th</sup> Street to 6<sup>th</sup> Street were reconstructed in 1994. Those blocks of 9<sup>th</sup> Avenue were reconstructed to a width of 33-feet. As a result, the parking restriction was able to be removed. Parking on both sides of 9<sup>th</sup> Avenue is currently allowed on the blocks from 4<sup>th</sup> Street to 6<sup>th</sup> Street.

However, without substantiated need, or a petition from residents, it is difficult to justify the additional cost of widening 9<sup>th</sup> Avenue by 6-feet over its existing width. In addition, the creation of additional impervious surfacing should not be done unless it is deemed necessary or beneficial.

From an engineering design perspective, a street width of 28-feet from face of curb to face of curb is sufficient to allow an 8-foot wide parking lane along each curb, while maintaining a standard 12-foot wide travel lane along the center of the street. Therefore, by increasing the width of 9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street by just 1-foot on each side, a width of 28-feet could be achieved, and the City would have the option to remove parking restrictions on this block.

Based on the preceding discussion, the engineering recommendation for the width to which 9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street should be reconstructed is 28-feet from face of curb to face of curb. The City should then consider whether it wishes to remove the parking restrictions along this block.

#### 2. 9<sup>th</sup> Street

9<sup>th</sup> Street between 10<sup>th</sup> Avenue and 11<sup>th</sup> Avenue contains existing pavement of 26 to 28 feet wide, with no curb. There are not any parking restrictions currently signed along this block of 9<sup>th</sup> Street.

In accordance with the preceding discussion regarding street width on 9<sup>th</sup> Avenue, it is also the engineering recommendation that this block of 9<sup>th</sup> Street be reconstructed to a width of 28-feet. Doing so will approximately match the existing pavement width, and will allow the street to continue without parking restrictions.



### 3. 13<sup>th</sup> Street

13<sup>th</sup> Street between 7<sup>th</sup> Avenue and 8<sup>th</sup> Avenue also contains existing pavement of 26 to 28 feet wide, with no curb. There are not any parking restrictions currently signed along this block of 9<sup>th</sup> Street.

Similar to 9<sup>th</sup> Street, it is the engineering recommendation that this block of 13<sup>th</sup> Street be reconstructed to a width of 28-feet. Doing so will approximately match the existing street width, and will also allow the street to continue without parking restrictions

The City should confirm the proposed width of 9<sup>th</sup> Avenue, 9<sup>th</sup> Street, and 13<sup>th</sup> Street if the improvements for the 2018 Street and Alley Improvement Project are ordered.

## B. Avenues/Streets

### 1. Structural Section

The existing sections of 9<sup>th</sup> Avenue, 9<sup>th</sup> Street, and 13<sup>th</sup> Street are proposed to be removed and be replaced with new structural sections. The new section would be the same for each of these streets, and would match the 2005 Standard Specifications. The proposed street section would consist of 3-1/2 inches of bituminous pavement, placed in two layers. The pavement would be supported by an 8-1/2 inch gravel base layer, which in turn would be underlain by a 12-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate the street section materials from the existing soils.

The geotechnical investigation performed for this Report concurs the proposed section should be sufficient, based on review of the existing soils found beneath the streets at each boring location.

### 2. Curb

Concrete curb and gutter is also proposed along the full length of 9<sup>th</sup> Avenue, 9<sup>th</sup> Street, and 13<sup>th</sup> Street included in the project. The curb type would be concrete, 6-inch high, with a 24-inch wide gutter. This style of curb, referred to as B624, is consistent with the 2005 Standard Specification.

Along 9<sup>th</sup> Avenue, the proposed curb would replace the existing curb.

On 9<sup>th</sup> Street, although the existing street does not contain curb, the boulevards essentially act in similar fashion. Concrete curb can readily be added to 9<sup>th</sup> Street, and it is recommended to do so in order to better delineate the edge of the road and separate it from the grass boulevard, to improve the drainage characteristics by carrying surface water in the concrete gutter, and to prevent premature deterioration of the bituminous pavement edge. Addition of curb would also prevent water from the public street draining onto the boulevard along the property on the east side of 9<sup>th</sup> Street north of the alley.

Along 13<sup>th</sup> Street, installation of curb on the east side of the street south of the alley will prevent surface water draining from the street onto the adjacent private property. The property on the east side of 13<sup>th</sup> Street north of the alley is higher than the road, allowing for installation of curb similar to 9<sup>th</sup> Street. Along the property south of the alley on the west side of 13<sup>th</sup> Street, the existing drainage ditch is relatively narrow and shallow, and can be readily filled for a small increase in project cost. The drainage ditch along the property north of the alley on the west side of 13<sup>th</sup> Street is longer, more well defined, and receives water from the ditches along the alley as well as 8<sup>th</sup> Avenue. Eliminating this ditch would require a larger project cost due to a greater amount of storm sewer required. Therefore, the proposed improvements are to install the curb along this portion of 13<sup>th</sup> Street, but to maintain the existing drainage ditch along the north property on the west side.

Concrete aprons are proposed to be constructed at the connections of the alleys to the streets on both 9<sup>th</sup> Street and 13<sup>th</sup> Street.

#### C. Alleys

The existing sections for each of the five blocks of alleys included in the 2018 Project are proposed to be removed and be replaced with new structural sections. The design section would be the same for each alley, and would be based upon Section 10.C.3 of the City of Two Harbors Special Assessment Policy, as well as upon recent alley repairs performed by the City. The proposed section would consist of an 8 inch gravel layer, underlain by a 24-inch granular material layer. Geotextile fabric would be placed at the bottom of the new section, to separate the alley section materials from the existing soils.

The structural section for the alleys could also be modified to include an optional bituminous pavement surface. More information on this option is provided under the Optional Improvements section of this Report.

The geotechnical investigation performed for this Report concurs the proposed alley section should be sufficient, based on review of the existing soils found beneath each boring location. The geotechnical investigation recommended the upper half of the 8 inch gravel layer be a surfacing aggregate, such as Class 1, while the lower half of the 8 inch layer be a base aggregate, such as Class 5.

As noted under the Existing Conditions, the soil borings in the Alley North of 2<sup>nd</sup> Avenue and the Alley North of 8<sup>th</sup> Avenue encountered organic soils. Additional excavation below the design section may be necessary during construction to remove organic soils if they pose risk of being detrimental to the long term stability of the section. This conditioned would be monitored during construction and addressed as necessary.

Some amount of rock excavation is also anticipated to be necessary for the construction of the Alley North of 3<sup>rd</sup> Avenue, based upon the visible rock near 3<sup>rd</sup> Street and the findings of the soil boring in this alley.

The width of each reconstructed alley would be 16-feet, centered within the 20-foot public ROW. In order to construct the alleys to the design width, it will be necessary to remove vegetation, landscaping elements, and other obstructions as they are encountered.

Both ends of each alley in the project connect to streets that have existing concrete curbs. All connection locations except those at 8<sup>th</sup> Street also include an existing concrete sidewalk along the street. A concrete apron would be constructed at both ends of each alley to connect to the existing streets and sidewalks.

#### D. Driveways

All existing driveway connections to the avenue, streets, and alleys in the 2018 Project are proposed to be replaced at their current locations, with new materials consistent with their existing surface type (i.e. concrete for concrete, bituminous for bituminous, gravel for gravel). The width of each driveway would approximately match the existing width. The length of repair along each driveway would be sufficient to achieve an acceptable slope.

#### E. Sidewalks

##### 1. 9<sup>th</sup> Avenue

The existing sidewalk on both sides of 9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street are proposed to be completely replaced with new concrete sidewalk. The existing sidewalk on each side of this block of 9<sup>th</sup> Avenue is 6-feet wide. However, the existing sidewalk on the blocks of 9<sup>th</sup> Avenue east of 6<sup>th</sup> Street and west of 7<sup>th</sup> Street are only 5-feet wide. The 2005 Standard Specifications recommends sidewalks 4-feet in width.



Based on this, there would be rationale for the City to choose to construct the sidewalk along this block of 9<sup>th</sup> Avenue at a width of 6-feet, 5-feet, or 4-feet. In accordance with the Special Assessment Policy, which states reconstructed sidewalks should match the existing width whenever feasible, the preliminary design for this project proposes to reconstruct the sidewalks at a width of 6-feet. This also provides a conservative cost estimate, in the event the sidewalks were to actually be constructed at a width of less than 6-feet.

The City should direct their preferred sidewalk width if the improvements for the 2018 Street and Alley Improvement Project are ordered.

Due to the recommended sanitary sewer and water system improvements, described in a later section of this Report, it would also be necessary to reconstruct the sidewalks and pedestrian ramps at the intersections of 9<sup>th</sup> Avenue with 6<sup>th</sup> Street and 7<sup>th</sup> Street as part of this Project. All work would be done in accordance with requirements of the Americans with Disabilities Act (ADA).

All private sidewalks along the block of 9<sup>th</sup> Avenue between 6<sup>th</sup> Street and 7<sup>th</sup> Street impacted by the project are also proposed to be reconstructed with the improvements. The private walks would be reconstructed at their existing locations, and to the limits as impacted by the project. Since these private walks are not part of the public sidewalk system, the ADA requirements do not apply and curb ramps are not necessary.

## 2. 9<sup>th</sup> Street

As a result of the proposed improvements to 9<sup>th</sup> Street as part of the project, the ends of the existing sidewalk on the north side of 10<sup>th</sup> Avenue at its intersection with 9<sup>th</sup> Street would need to be reconstructed within the project limits. The sidewalks would be reconstructed at their existing location and to their existing width. Pedestrian ramps in accordance with ADA requirements would also be provided as part of the work.

There is also an option for construction of a new segment of sidewalk along the block of 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue. More information is provided in the Optional Improvements section of this Report.

## 3. 13<sup>th</sup> Street

No impacts to existing sidewalks are anticipated due to the proposed improvements on 13<sup>th</sup> Street, and there are no new segments of sidewalk proposed.

## 4. Alleys

For the five blocks of alleys included in the proposed 2018 Project, sidewalk improvements would be limited to reconstruction of existing segments of sidewalk on the adjacent Streets impacted by construction at the ends of the alleys. Sidewalks would be reconstructed at their existing location and to their existing widths.

The portion of sidewalk subject to vehicular traffic would be reconstructed to a thicker section, consistent with the concrete aprons. Since the concrete sidewalk route would be continuous across the alley, pedestrian ramps are not required where the alleys intersect the sidewalks.

# F. Water System

The only proposed improvements to the water system within the 2018 Project area are along 9<sup>th</sup> Avenue. They are shown on Figure 3 in Appendix A, and are described below.

## 1. 9<sup>th</sup> Avenue

In summary, the sub-standard 4-inch diameter water main is proposed to be replaced within the project area with a new 6-inch diameter main.

In 1994, 9<sup>th</sup> Avenue from 4<sup>th</sup> Street to 6<sup>th</sup> Street was reconstructed. That project included replacement of the 4-inch water main with new 6-inch water main. The new water main was located in the south boulevard, and the limits of installation stopped on the east side of 6<sup>th</sup> Street, at the location of the hydrant.

The water main replacement under the proposed 2018 Project would start at the end of the 1994 project, on the east side of 6<sup>th</sup> Street. The proposed alignment for the water main would be on the north side of 9<sup>th</sup> Avenue, under the street pavement. If the water main alignment used in 1994 were continued, it would result in removal of several more trees and landscaping on the south boulevard, as well as a greater overall area of disturbance due to the construction. Temporary easements may also be required if the water main were continued along the 1994 alignment. For these reasons, a water main alignment under the pavement along the north side of 9<sup>th</sup> Avenue is recommended for the 2018 project.

The new 6-inch water main would be extended across 7<sup>th</sup> Street, where it would be connected to the existing 4-inch diameter water main. The existing hydrant on the northeast corner of 9<sup>th</sup> Avenue and 7<sup>th</sup> Street would be removed and replaced with a new hydrant as part of the improvements. New valves would be installed at appropriate locations for operation of the new segment of water main.

The individual water service to each property within the block of 9<sup>th</sup> Avenue from 6<sup>th</sup> Street to 7<sup>th</sup> Street would also be replaced. New service pipe would be extended from the new 6-inch water main at each location. The existing curb stop and box would be removed and replaced with new materials. The new curb stops and boxes would be installed at the same locations from where the old were removed. The existing service would then be re-connected to the new curb stop.

A temporary water supply system for this block of 9<sup>th</sup> Avenue would be necessary during construction of the new water main and services. The furnishing, installation, and maintenance of the temporary water system would be included in the project as part of the responsibility of the contractor, under review and approval by the City.

#### G. Sanitary Sewer

Improvements to the sanitary sewer system as part of the 2018 Project are proposed on 9<sup>th</sup> Avenue and on 13<sup>th</sup> Street. Descriptions are provided below.

##### 1. 9<sup>th</sup> Avenue

Sanitary sewer improvements proposed on 9<sup>th</sup> Avenue are shown on Figure 3 in Appendix A. In summary, the existing sanitary sewer main and services within the project area are proposed to be replaced.

The 1994 project that reconstructed 9<sup>th</sup> Avenue from 4<sup>th</sup> Street to 6<sup>th</sup> Street included replacement of the sanitary sewer along those blocks. However, it stopped at the manhole on the east side of 6<sup>th</sup> Street, and did not replace that manhole.

The sanitary sewer improvements under the 2018 Project would start where the 1994 project ended. The 2018 Project proposes to replace the existing manhole on the east side of 6<sup>th</sup> Street, replace the sewer main across 6<sup>th</sup> Street and along 9<sup>th</sup> Avenue to the existing manhole on the west side of 7<sup>th</sup> Street. The manhole on the west side of 7<sup>th</sup> Street is proposed to be replaced. Doing so will minimize the risk that the intersection of 9<sup>th</sup> Avenue and 7<sup>th</sup> Street would need to be re-excavated and disturbed again in the future when the sanitary sewer and water main west of 7<sup>th</sup> Street are replaced.

The individual sewer service to each property within the block of 9<sup>th</sup> Avenue from 6<sup>th</sup> Street to 7<sup>th</sup> Street would also be replaced. New service pipe would be extended from the new sewer main at each location. The new service pipe would then be connected to

the existing service pipe at a location approximately across from the new curb stop and box installed with the new water service as previously described. This will result in minimal disturbance of additional boulevard area, since both the installations of the new portions of the water service and sewer service will be stopping at approximately the same location. It will also serve as a reference for property owners who may want to replace the rest of their sanitary sewer service in the future.

Temporary interruptions to sewer service will be necessary during the sanitary sewer improvements. Coordination by the contractor with the City Utility Department and the residents will be required. It may also be necessary to establish temporary bypassing of segments of the sanitary sewer main during construction of the new sewer improvements. The furnishing, installation, and maintenance of any temporary bypass equipment would be included in the project under the responsibility of the contractor, under review and approval by the City.

## 2.13<sup>th</sup> Street

Sanitary sewer improvements proposed on 13<sup>th</sup> Street are shown on Figure 5 in Appendix A. In summary, the portions of the existing sanitary sewer main within the project construction limits are proposed to be replaced, so that future disturbance of 13<sup>th</sup> Street will not be necessary.

The existing manhole in 13<sup>th</sup> Street is in good condition, as is the existing sewer main extending to the north. Therefore, the existing manhole in 13<sup>th</sup> Street will be left in place, and the improvements proposed in the 2018 Project are to replace the sewer main extending east and west from the manhole to a point beyond the limits of the street reconstruction.

To the east of 13<sup>th</sup> Street, the logical stopping point for the sewer main replacement is at the manhole behind O'Reilly Auto Parts. This is a distance of about 45 to 50-feet from the existing manhole in 13<sup>th</sup> Street. There are no property services along this sewer segment. Since the manhole behind O'Reilly Auto Parts is older and in relatively worse condition, it is also proposed to be replaced as part of the improvements.

The existing sanitary sewer main to the west of 13<sup>th</sup> Street extends over 400 feet before the next manhole. It is not within the scope of the 2018 Project to replace that entire length of sewer. In reviewing the televising video for this sewer main, the first two services are located approximately 40-feet and 65-feet from the manhole in 13<sup>th</sup> Street. These two service connections were made sometime after the original installation of the sewer main. The pipe at the location of each of these service connections is broken, leaking, and in poor condition. Based on this, a logical stopping point for replacement of the sewer main extending west of 13<sup>th</sup> Street would be just past the second service connection, at a distance of 70 to 75-feet from the existing manhole in 13<sup>th</sup> Street.

A new manhole would be installed at the end of the sewer replacement west of 13<sup>th</sup> Street, to facilitate connection to the existing main. The new manhole will also serve as a marker at the end of the new sewer main, for when the remainder of the sewer main west of 13<sup>th</sup> Street is replaced. It may be possible to salvage the new manhole at that time and re-use it as part of those future improvements.

Temporary interruptions to sewer service will be necessary during the sanitary sewer improvements. Coordination by the contractor with the City Utility Department and the affected properties will be required. It may also be necessary to establish temporary bypassing of segments of the sanitary sewer main during construction of the new sewer improvements. The furnishing, installation, and maintenance of any temporary bypass equipment would be included in the project under the responsibility of the contractor, under review and approval by the City.

## H. Other Utilities

### 1. Gas

The gas system is owned, operated, and maintained by the City of Two Harbors Utility Department. No modifications to the gas system would be included in the contract let for the proposed 2018 Street and Alley Improvement Project.

It is the understanding of this Report that the City does not anticipate any notable replacements or extensions of the existing gas mains or services in the project area.

The primary coordination with the gas utility in conjunction with the proposed 2018 Project would be within the five blocks of alleys. Existing gas mains are present in each of the alleys, generally located near the edge of the existing pavement. Service lines extend from the gas mains, crossing beneath the alley pavement.

The contractor for the 2018 Project would be required to expose the gas mains and services in advance of construction, so their exact locations and depths could be documented. This work will be coordinated with the City Utility.

The proposed pavement section for the alleys is 32-inches thick. The typical depth of the existing gas mains is on the order of 36-inches deep, with service lines generally less deep than the mains. Therefore, it is anticipated there will be gas services, and possibly gas mains, located within the proposed excavation for the alley construction.

Excavation near gas mains and services will need to be done with the proper caution and appropriate coordination with the City Utility. It may be necessary to modify the depth or width of the excavation in certain locations to reduce or avoid impacts with the gas utility. This situation would be made known to the contractor as part of the construction documents in advance of beginning work, and it would need to be monitored as necessary during construction in the alleys.

### 2. Electric

The electric system is owned, operated, and maintained by the City of Two Harbors Electric Department. No modifications to the electric system would be included in the contract let for the proposed 2018 Street and Alley Improvement Project.

It is the understanding of this Report that in conjunction with the 2018 Project the City may want to replace some street lights, perform other minor repairs or updates to the system, and place conduits for potential future wire routings. All work would be done by the City Electric Department.

The primary coordination with the electric utility for the proposed 2018 Project would be in regard to the timing of work by the electric utility. Ideally, the City Electric Department would be able to do their work after the existing pavement surfacing has been removed by the contractor for the 2018 Project. The work of the City Electric Department would need to be done in such a way as to minimize disruption or delay of work by the contractor on the project. This situation would be made known to the contractor as part of the construction documents in advance of beginning work, and it would be monitored and coordinated as necessary during construction.

## I. Drainage

### 1. 9<sup>th</sup> Avenue

No notable changes to the proposed drainage patterns on this block of 9<sup>th</sup> Avenue are proposed. However, since the intersections at both 6<sup>th</sup> Street and 7<sup>th</sup> Street will be reconstructed due to the sanitary sewer and water system improvements noted previously, it is recommended to take this opportunity to update the storm sewer at these intersections. In addition, the location of the existing storm sewer inlets at the intersections conflict with construction of ADA compliant pedestrian ramps.

It is proposed to relocate storm sewer inlet locations, install additional inlets, and update inlet styles. The relocated structures will fit the proposed curb and gutter better than the existing structures. These improvements will also increase the collection efficiency and functionality of the storm sewer.

### 2. 9<sup>th</sup> Street

The existing catch basins at the southwest and southeast corners of the intersection of 9<sup>th</sup> Street and 11<sup>th</sup> Avenue are located in the grass boulevards. The inlet grates become clogged often due to leaves, overgrown grass, etc. The existing inlets do a poor job of receiving surface water runoff from the streets.

It is proposed to remove the existing catch basins and replace them with new inlet structures that would be located in the proposed curb line. The new structures would meet current standards and greatly increase performance for collection of street runoff.

At the intersection of 9<sup>th</sup> Street with 10<sup>th</sup> Avenue, there is no readily available option for installing new storm sewer to alleviate the street ponding. The recommended improvement for this location is to install a concrete valley gutter at this location. The concrete valley gutter would provide a continuous concrete flow line for storm water to flow from west to east across 9<sup>th</sup> Street. The valley gutter would be aligned with and would connect to the existing concrete curb and gutter on the north side of 10<sup>th</sup> Street on either side of the intersection.

The existing culvert across 9<sup>th</sup> Street along the north side of the alley is in poor condition, and is very shallow, and therefore subject to damage from vehicle loads. It is proposed to replace the culvert with a new, stronger pipe. In conjunction with the new pipe installation, the ditch on the north side of the alley to the east of 9<sup>th</sup> Street would be cleaned and re-graded across the first property, to ensure positive drainage away from the end of the pipe.

### 3. 13<sup>th</sup> Street

The existing drainage ditch on the west side of 13<sup>th</sup> Street north of the alley will be maintained as part of the proposed improvements. This ditch would continue to receive water from the existing ditches along 8<sup>th</sup> Avenue as well as from the north side of the alley, and also from the front yard of the property at 1302 8<sup>th</sup> Avenue.

The existing culvert beneath 8<sup>th</sup> Avenue would be replaced, as would the driveway beneath the culvert at 1302 8<sup>th</sup> Avenue. The existing culvert at 1302 causes a significant hump in the driveway. It is proposed to lower the culvert to eliminate that negative condition for the residence.

The remainder of 13<sup>th</sup> Street would be converted to an urban design for surface water runoff. Storm sewer would be installed at the street low point on the north side of the commercial driveways. From that low point, storm sewer would also be extended along each side of 13<sup>th</sup> Street to north of the alley. On the east side, a new storm sewer inlet would be installed in the curb line, to minimize the amount of street runoff that flows into the alley and impacts the rear of the properties to the east of 13<sup>th</sup> Street.

Along the west side of 13<sup>th</sup> Street, the storm sewer would terminate in an apron north of the alley. The new apron would collect the storm water from both the ditch along the alley and the ditch on the west side of 13<sup>th</sup> Street north of the alley. With the addition of the new storm sewer, the existing drainage ditch along the west side of 13<sup>th</sup> Street south of the alley could be filled in and converted to a standard grass boulevard.

The new storm sewer along 13<sup>th</sup> Street would connect to the culvert crossing 13<sup>th</sup> Street on the north side of 7<sup>th</sup> Avenue. However, due to the lowering of the culvert beneath the driveway at 1302 8<sup>th</sup> Avenue, the existing culvert along the north side of 7<sup>th</sup> Avenue would also need to be lowered. It is proposed to replace the existing metal culvert in the ditch along the north side of 7<sup>th</sup> Avenue with a new concrete culvert. A new structure would also be installed in the culvert, to facilitate connection of the storm sewer from 13<sup>th</sup> Street. It would be necessary to re-grade the ditch along 7<sup>th</sup> Avenue for approximately 50-feet to the west and 150-feet to the east of 13<sup>th</sup> Street in order to accommodate the lower elevation of the new culvert.

#### 4. Alleys

In general, the properties on one side of each alley are higher than properties on the other side of the alley. As a result, care must be used on the drainage patterns in the alleys, to avoid directing excess water from the alleys onto the lower properties.

The proposed surfacing on each alley in the 2018 Project would be constructed with a cross slope toward the higher properties, to maize risk of surface water from the alley flowing onto the lower adjacent properties. Alley surfacing under the proposed project would not be constructed with a concave shape unless necessary for drainage. Concave pavements present maintenance issues for the City Public Works Department, and can also increase winter icing conditions if not properly drained. Therefore, their use will be minimized on the proposed project. Any pavement areas required to be shaped in a concave fashion for drainage would be proposed with concrete surfacing. Pavements with gravel or bituminous surfacing are susceptible to increased deterioration if they are concave shaped.

Additional information for proposed drainage improvement in individual alleys is provided below:

a) Alley North of 2<sup>nd</sup> Avenue

To improve the drainage on the eastern portion of this alley, it is proposed to raise the high point in order to increase the grade toward 4<sup>th</sup> Street. The high point would be raised as much as possible, but will be limited by elevations of existing garages and driveways. To further help the drainage in this part of the alley, the concrete apron at the 4<sup>th</sup> Street end of the alley will be extended a ways into the alley. This will allow the apron to essentially act as a concrete gutter, and will help to carry the water from the alley to 4<sup>th</sup> Street.

Based on the preliminary design for the elevated high point and lengthened concrete apron, it appears the addition of storm sewer will not be necessary on this alley.

b) Alley North of 3<sup>rd</sup> Avenue

It is proposed to maintain existing drainage patterns on this alley. Proposed longitudinal grades on the final design of this alley should be similar to the existing grades. The steep slope on the eastern portion of this alley may be lessened somewhat, in order to create a better driving experience while maintaining necessary drainage function.

No storm sewer is anticipated to be needed on this alley.



c) Alley North of 4<sup>th</sup> Avenue

To improve longitudinal drainage in the middle section of this block it is proposed to raise the high point in order to increase the grade in both directions. The high point would be raised as much as possible, but will be limited by elevations of existing garages and driveways. To help with increasing the longitudinal grade, the steeper slope near 5<sup>th</sup> Street will be lessened, with that vertical elevation difference being extended over an increased length of the alley.

Based on the preliminary design for the elevated high point and longitudinal grades, it appears the addition of storm sewer will not be necessary on this alley. It should also not be necessary to lengthen the concrete apron at either end of the alley as is proposed for the Alley North of 2<sup>nd</sup> Avenue.

d) Alley North of 7<sup>th</sup> Avenue

It is proposed to maintain existing drainage patterns on this alley. Proposed longitudinal grades on the final design of this alley should be similar to the existing grades. The steeper slope on the eastern portion of this alley may be lessened somewhat, with that vertical elevation difference being extended over an increased length of the alley in order to improve drainage efficiency.

No storm sewer is anticipated to be needed on this alley.

e) Alley North of 8<sup>th</sup> Avenue

The proposed grades for the eastern half of this block should be fairly close to the existing grades. However, it does not appear drainage can be made to work on the west half of this alley without the addition of storm sewer.

To facilitate drainage on the west half of this block, it is proposed to create a low point approximately 185-feet east of 8<sup>th</sup> Avenue, behind the property at 719 8<sup>th</sup> Avenue. The low point would be created by lowering the alley elevation at that location while also raising the elevation on either side. A storm sewer inlet would be installed at the low point, and storm sewer pipe would be extended to 8<sup>th</sup> Avenue and connected to an existing storm sewer in that street. The connection would require excavation and patching of an area on 8<sup>th</sup> Street.

To minimize cost, as well as to reduce impact on nearby driveways, it is proposed to install a single storm sewer inlet in the middle of the alley. The surface area of the alley around the inlet would be graded to drain to the inlet. This area would be proposed with concrete surfacing, to resist deterioration due to storm water action, as well as to better maintain the necessary grades for drainage to function properly.

The result of the preliminary design is such that the eastern half of the alley would drain to 7<sup>th</sup> Street, the west 20% of the alley length would drain to 8<sup>th</sup> Street via surface drainage, and the remaining 30% of the alley would drain to the new storm sewer catch basin inlet.

## IV. OPTIONAL IMPROVEMENTS

Beyond the base proposed improvements discussed in the preceding section, there are situations with the 2018 Street and Alley Improvement Project area where optional improvements could be considered. These optional improvements include:

- Construction of a sidewalk along 9<sup>th</sup> Street.
- Construction of bituminous pavement in the alleys.

Further information on each optional improvement is provided below.

A. Sidewalk – 9<sup>th</sup> Street

The existing sidewalk and trail network in the area around 9<sup>th</sup> Street is shown on Figure 11 in Appendix A of this Report. It can be seen that concrete sidewalks exist along both sides of 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> Avenues, as well as along the south side of 11<sup>th</sup> Avenue to mid-block between 8<sup>th</sup> and 9<sup>th</sup> Streets. Sidewalk also exists on the west side of 8<sup>th</sup> Street from 7<sup>th</sup> Avenue to 13<sup>th</sup> Avenue.

The block of 9<sup>th</sup> Street proposed to be reconstructed as part of the 2018 Street and Alley Improvement Project is from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue. Concrete sidewalk exists on the east side of 9<sup>th</sup> Street from 7<sup>th</sup> Avenue to 10<sup>th</sup> Avenue, which are the three blocks of 9<sup>th</sup> Street immediately south of the 2018 Project block. Odegard Park exists at the intersection of 9<sup>th</sup> Street and 13<sup>th</sup> Avenue, just two blocks north of the 2018 Project block. The end of the paved trails that crosses under the railroad and connects to the trail along 11<sup>th</sup> Street just north of Shopko and Super One Foods is at the end of 11<sup>th</sup> Avenue, just one block west of the 2018 Project block.

Argument for the construction of a new sidewalk segment along the block of 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue could be made based upon the following reasons:

- Extension of a pedestrian route towards Odegard Park.
- Consistency with the section of 9<sup>th</sup> Street from 7<sup>th</sup> Avenue to 10<sup>th</sup> Avenue.
- Potential increased connectivity with the sidewalk network along 11<sup>th</sup> Avenue and 12<sup>th</sup> Avenue.
- Potential future connection to the existing trail to 11<sup>th</sup> Street.

Investigation of a sidewalk along this block of 9<sup>th</sup> Avenue was performed as part of this Report. A sidewalk was found to be feasible along either the west side or east side of 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue.

Upon review of the existing field conditions, construction of a sidewalk on the west side of this block of 9<sup>th</sup> Street would be slightly easier and less expensive than construction of a sidewalk on the east side of 9<sup>th</sup> Street. Construction of a sidewalk on the east side may also impact existing trees along this block, while a sidewalk on the west side would not.

However, if a goal is to construct a pedestrian route to Odegard Park, the remainder of the route should also be considered. Initial review indicates construction of a sidewalk on the west side of 9<sup>th</sup> Avenue for the next two blocks, from 11<sup>th</sup> Street to 13<sup>th</sup> Street, may be much more difficult than construction on the east side would be. There is a drainage ditch that would need to be addressed. There also appear to be wetlands in the middle of each block on the west side of 9<sup>th</sup> Street from 11<sup>th</sup> Avenue to 13<sup>th</sup> Avenue. Those factors would greatly outweigh the minor differences between construction on the east vs. west side of 9<sup>th</sup> Street for the block in the 2018 Project.

From a consistency standpoint as well, construction of a sidewalk on the east side of 9<sup>th</sup> Street would be preferred.

Based on the preceding discussion, if the City wished to construct a sidewalk along the block of 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue, the engineering recommendation would be to construct the sidewalk on the east side of 9<sup>th</sup> Street.

On the segment of 9<sup>th</sup> Street from 7<sup>th</sup> Avenue to 10<sup>th</sup> Avenue, the existing sidewalk is immediately adjacent to the back of curb along the east side of 9<sup>th</sup> Street. For the block of 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue, it would be feasible to construct the sidewalk immediately behind the curb, consistent with the segment from 7<sup>th</sup> Avenue to 10<sup>th</sup> Avenue. It would also be feasible to construct a sidewalk on the east side with a standard grass



boulevard section between the curb and sidewalk. However, construction of the sidewalk with a grass boulevard would cause increased risk to impacts on existing trees.

For these reasons, if a sidewalk were to be constructed on the east side of 9<sup>th</sup> Street on the block from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue, the recommendation would be to locate the sidewalk immediately behind the curb.

The optional sidewalk along 9<sup>th</sup> Street is shown on Figure 4 in Appendix A.

## B. Bituminous Pavement in Alleys

The five blocks of alley included in the 2018 Project are proposed to be reconstructed with a new structural section including gravel surfacing. This scope of work could be easily adjusted to allow for construction of bituminous pavement on the alleys.

If bituminous pavement were constructed on the alley, the modifications to the proposed structural section would be as follows:

- Add 3-1/2 inches of bituminous surfacing. (This is the standard thickness for City street shown in the 2005 Standard Specifications.)
- Change the upper 4 inches of gravel material from Class 1 surfacing aggregate to Class 5 base aggregate.
- Increase the Class 5 gravel base aggregate layer thickness from 8 inches to 8-1/2 inches. (8-1/2 inches is the thickness per the 2005 Standard Specifications.)
- Decrease the granular material layer thickness from 24 inches to 20 inches.

The proposed modifications would provide a stronger total structural section (Gravel Equivalency = 26.375 inches for bituminous surfaced section, 20.000 for gravel surfaced.), while maintaining the same overall total section depth of 32-inches. The proposed modifications would not require deeper or additional excavation in order to install bituminous pavement. In essence, a portion of the granular material layer would be converted to the bituminous layer.

The proposed typical sections for a gravel surfaced alley and bituminous surfaced alley are shown side-by-side on Figure 2 in Appendix A.

It would be possible to construct the alleys to a gravel surface with the 2018 Project, and to improve them to a bituminous pavement at a future time. However, to maintain drainage and connection to existing driveways, it would likely not be possible to just add the bituminous on top of the Class 5 gravel. Instead, it would likely be necessary to remove a portion of the Class 5 gravel thickness in order to install the bituminous. While feasible, this would be a less desirable structural section than to construct the alleys with bituminous surfacing now.

If the City wanted to construct the alleys to a gravel surface in 2018, but keep the option open for adding bituminous pavement in the future, it may be advisable to increase the Class 5 layer on the alleys (and correspondingly decrease the thickness of the underlying granular material), so that in the future, a portion of the Class 5 gravel could be removed, while still leaving a standard thickness of Class 5 in place beneath the installed bituminous pavement.

Bituminous surfacing would be superior to gravel surfacing for the following reasons:

- Increased structural strength.
- Better ability to hold grade.
- Improved drainage characteristics.
- Less frequent maintenance.
- Better definition of pavement edge.

## V. PERMITS

In order to construct the proposed improvements described in this Report it will be necessary to obtain the following permits prior to the start of construction:

- Minnesota Department of Health (MDH) for water system.
  - For water main installation on 9<sup>th</sup> Avenue.
- Minnesota Pollution Control Agency (MPCA) for sanitary sewer.
  - Since only replacing existing pipe, no flow increase, permit not needed.
- Minnesota Pollution Control Agency (MPCA) for stormwater.
  - NPDES/SDS Construction Permit would be needed since disturbing over 1 acre.
- Minnesota Department of Transportation (MnDOT)
  - Permit needed for work within their ROW along Highway 61.
- Lake County
  - Permit needed for storm sewer connection on 8<sup>th</sup> Street.
  - Permits may also be needed for impacts to their streets at ends of alleys.

## VI. EASEMENTS

All proposed improvements to public infrastructure would be located within existing public right-of-way (ROW) or City owned property. No permanent or temporary easements are anticipated to be needed for the proposed construction activities on the public infrastructure.

For various items of private infrastructure, minor encroachment onto private property may be beneficial in order to achieve a better overall quality of work. These items include:

- Water service installation and connection.
- Sanitary sewer service installation and connection.
- Driveway connections.
- Private sidewalk connections.

Formal temporary construction easements are not anticipated to be necessary for this work, unless the City prefers to obtain them. Rather, it is anticipated the work can be achieved through direct communication and coordination with the property owner. If such coordination cannot be obtained, work could be stopped short such that no encroachment onto the private property occurs.

## VII. ESTIMATED COSTS

Detailed cost estimates for the proposed improvements have been prepared and are included in Appendix B of this report. All costs are based on anticipated unit prices for the 2018 construction season, and include an allowance for indirect costs associated with the project (such as engineering, testing, administrative, legal, and financing). No costs are included for capitalized interest during the construction period or before assessments are collected.

Costs have been estimated for both the base work described in Section III – Proposed Improvements, as well as for that described in Section IV – Optional Improvements. Information on the base cost estimates is presented below, within information on the estimated costs for the optional improvements presented later in this section.

A. Base Improvements

Costs have been separated for each individual block proposed in the project area. The table below presents a summary of the total estimated costs for the base improvements. This summary is also presented in Appendix B1 of this Report.

<p>Table 1</p> <p>Estimated Total Project Costs</p> <p>Summary by Segment</p>	
Segment	Estimated Cost
9 <sup>th</sup> Avenue: 6 <sup>th</sup> St. to 7 <sup>th</sup> St.	\$590,610
9 <sup>th</sup> Street: 10 <sup>th</sup> Ave. to 11 <sup>th</sup> Ave.	\$171,530
13 <sup>th</sup> Street: 7 <sup>th</sup> Ave. to 8 <sup>th</sup> Ave.	\$298,710
Alley North of 2 <sup>nd</sup> Avenue: 4 <sup>th</sup> St. to 5 <sup>th</sup> St.	\$97,660
Alley North of 3 <sup>rd</sup> Avenue: 3 <sup>rd</sup> St. to 4 <sup>th</sup> St.	\$127,440
Alley North of 4 <sup>th</sup> Avenue: 5 <sup>th</sup> St. to 6 <sup>th</sup> St.	\$80,680
Alley North of 7 <sup>th</sup> Avenue: 7 <sup>th</sup> St. to 8 <sup>th</sup> St.	\$88,460
Alley North of 8 <sup>th</sup> Avenue: 7 <sup>th</sup> St. to 8 <sup>th</sup> St.	\$143,780
<b>Total Estimated Costs (Base Improvements)</b>	<b>\$1,598,870</b>

Within each block, cost have been estimated by type of improvement. Following are tables for each individual block, showing the costs by type of improvement. This information is summarized in Appendix B1, and detailed cost estimates by type of improvement for each individual block are shown in Appendix B2 – B9 of this Report.

<p>Table 2</p> <p>Estimated Costs</p> <p>9th Avenue: 6th St. to 7th St.</p>	
Improvement Type	Estimated Cost
Street	\$234,250
Sidewalk	\$72,880
Storm Sewer	\$75,630
Sanitary Sewer	\$64,830
Sanitary Services	\$34,350
Water System	\$63,420
Water Services	\$45,250
<b>Total Estimated Costs – 9<sup>th</sup> Avenue</b>	<b>\$590,610</b>

Table 3 Estimated Costs 9th Street: 10th Ave. to 11th Ave.	
Improvement Type	Estimated Cost
Street	\$135,650
Sidewalk	\$6,770
Storm Sewer	\$29,110
<b>Total Estimated Costs – 9<sup>th</sup> Street</b>	<b>\$171,530</b>

Table 4 Estimated Costs 13 <sup>th</sup> Street: 7 <sup>th</sup> Ave. to 8 <sup>th</sup> Ave.	
Improvement Type	Estimated Cost
Street	\$171,270
Storm Sewer	\$94,990
Sanitary Sewer	\$29,770
Sanitary Services	\$2,680
<b>Total Estimated Costs – 13<sup>th</sup> Street</b>	<b>\$298,710</b>

Table 5 Estimated Costs Alley North of 2 <sup>nd</sup> Avenue: 4 <sup>th</sup> St. to 5 <sup>th</sup> St.	
Improvement Type	Estimated Cost
Alley	\$94,750
Sidewalk	\$2,910
<b>Total Estimated Costs – Alley North of 2<sup>nd</sup> Avenue</b>	<b>\$97,660</b>

<p>Table 6</p> <p>Estimated Costs</p> <p>Alley North of 3rd Avenue: 3rd St. to 4th St.</p>	
Improvement Type	Estimated Cost
Alley	\$122,490
Sidewalk	\$4,950
<b>Total Estimated Costs – Alley North of 3<sup>rd</sup> Avenue</b>	<b>\$127,440</b>

<p>Table 7</p> <p>Estimated Costs</p> <p>Alley North of 4<sup>th</sup> Avenue: 5<sup>th</sup> St. to 6<sup>th</sup> St.</p>	
Improvement Type	Estimated Cost
Alley	\$77,770
Sidewalk	\$2,910
<b>Total Estimated Costs – Alley North of 4<sup>th</sup> Avenue</b>	<b>\$80,680</b>

<p>Table 8</p> <p>Estimated Costs</p> <p>Alley North of 7<sup>th</sup> Avenue: 7<sup>th</sup> St. to 8<sup>th</sup> St.</p>	
Improvement Type	Estimated Cost
Alley	\$87,000
Sidewalk	\$1,460
<b>Total Estimated Costs – Alley North of 7<sup>th</sup> Avenue</b>	<b>\$88,460</b>

<p>Table 9</p> <p>Estimated Costs</p> <p>Alley North of 8<sup>th</sup> Avenue: 7<sup>th</sup> St. to 8<sup>th</sup> St.</p>	
Improvement Type	Estimated Cost
Alley	\$108,500
Sidewalk	\$1,430
Storm Sewer	\$33,850
<b>Total Estimated Costs – Alley North of 7<sup>th</sup> Avenue</b>	<b>\$143,780</b>

## B. Optional Improvements

Section IV of this Report discussed the possible Optional Improvements for the 2018 Street and Alley Improvement Project. Those included construction of a sidewalk along either the east or west sides of 9<sup>th</sup> Street for the block from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue, and for installation of bituminous pavement in the alleys.

### 1. Sidewalk – 9<sup>th</sup> Street

A sidewalk was found to be feasible on either the west or east side of 9<sup>th</sup> Street. Construction on either side would require relatively minor modifications to the street design in order to accommodate the sidewalk. Therefore, in estimating the costs for the optional sidewalk along 9<sup>th</sup> Street, there are two components – an adjustment to the estimated cost for the street improvement, and addition of the sidewalk improvement.

The table below shows the estimated costs for the sidewalk on both the west and east sides of 9<sup>th</sup> Avenue. The table identifies the adjustment to the street improvement cost, the additional cost of the sidewalk, and the resulting total impact to the project cost due to the addition of the optional sidewalk on either side of 9<sup>th</sup> Street.

Detailed estimates for the costs shown in the following table are provided in Appendix B10 of this Report.

<p>Table 10</p> <p>Estimated Costs</p> <p>Optional Sidewalk – 9<sup>th</sup> Street</p>		
Item	West Side	East Side Cost
Street Cost Adjustment	\$(520)	\$2,440
Sidewalk Cost	\$18,500	\$20,730
<b>Net Impact to Project Cost</b>	<b>\$17,980</b>	<b>\$23,170</b>

From the table, it can be seen the estimated impact to the total project cost is estimated to be approximately \$5,000 higher if the optional sidewalk were constructed on the east side of 9<sup>th</sup> Avenue versus the west. However, as discussed in the previous section of this Report, the recommendation is that if the optional sidewalk is included in the 2018 Street and Alley Improvement Project, it be constructed on the east side of 9<sup>th</sup> Street.

## 2.Bituminous Pavement In Alleys

The table below shows the estimated costs for the addition of bituminous pavement to each of the five alley segments proposed in the 2018 Project, as well as the impact to the total Project costs if the pavement on all five alleys were included. Detailed estimates for the costs are provided in Appendix B10 of this Report.

Table 11 Estimated Costs Optional Bituminous Alley Pavement	
Alley Segment	Estimated Cost
North of 2 <sup>nd</sup> Avenue: 4 <sup>th</sup> St. to 5 <sup>th</sup> St.	\$15,440
North of 3 <sup>rd</sup> Avenue: 3 <sup>rd</sup> St. to 4 <sup>th</sup> St.	\$18,150
North of 4 <sup>th</sup> Avenue: 5 <sup>th</sup> St. to 6 <sup>th</sup> St.	\$16,020
North of 7 <sup>th</sup> Avenue: 7 <sup>th</sup> St. to 8 <sup>th</sup> St.	\$16,020
North of 8 <sup>th</sup> Avenue: 7 <sup>th</sup> St. to 8 <sup>th</sup> St.	\$16,020
<b>Total Estimated Costs – Bituminous Pavement In Alleys</b>	<b>\$81,650</b>

### C. Comparison to CIP

In August 2017 information was presented to the City Council showing updated CIP estimated costs for the 5-year period of 2018-2022. Included in that information were costs for the eight segments proposed as the 2018 Street and Alley Improvement Project.

The CIP information presented to the City Council included a breakdown of estimated costs for the 2018 segments by part. Based on the updated cost estimates for the 2018 Street and Alley Improvement Project prepared as part of this Report, a chart has been created to show a comparison of the August 2017 CIP estimates and the current estimates from this Report. That summary chart is included as Appendix B1a to this Report.

The table below shows a comparison of the total estimated cost from the CIP costs and this Report for each of the eight segments proposed in the 2018 Street and Alley Improvement Project. The difference between the two estimates has also been calculated for each segment, to show whether the current estimate for each is higher or lower than the CIP estimate.

It should be noted that the sidewalk along 9<sup>th</sup> Street was included in the CIP estimates of August 2017. In this current feasibility Report, that sidewalk is now presented as an optional improvement. Therefore, the current estimated cost of that improvement is added at the bottom of the table, to show a true comparison between the CIP and Report estimates.

<p>Table 12</p> <p>Comparison of Report to CIP</p> <p>Total Estimated Cost by Segment</p>				
Segment	CIP Estimate	Report Estimate	Report vs. CIP	
			Amount	Percent
9 <sup>th</sup> Avenue	\$549,870	\$590,610	\$40,740	7.41%
9 <sup>th</sup> Street	\$165,200	\$171,530	\$6,330	3.83%
13 <sup>th</sup> Street	\$363,380	\$298,710	\$(64,670)	-17.80%
Alley N of 2 <sup>nd</sup> Ave	\$188,070	\$97,660	\$(90,410)	-48.07%
Alley N of 3 <sup>rd</sup> Ave	\$101,850	\$127,440	\$25,590	25.13%
Alley N of 4 <sup>th</sup> Ave	\$97,820	\$80,680	\$(17,140)	-17.52%
Alley N of 7 <sup>th</sup> Ave	\$92,540	\$88,460	\$(4,080)	-4.41%
Alley N of 8 <sup>th</sup> Ave	\$141,690	\$143,780	\$2,090	1.48%
<b>Subtotals</b>	<b>\$1,700,420</b>	<b>\$1,598,870</b>	<b>\$(101,550)</b>	<b>-5.97%</b>
9 <sup>th</sup> Street Sidewalk	Included	\$23,170		
<b>Totals</b>	<b>\$1,700,420</b>	<b>\$1,622,040</b>	<b>(\$78,380)</b>	<b>-4.61%</b>

From the preceding table, it can be seen that without the optional sidewalk along 9<sup>th</sup> Street, the current estimated costs for the 2018 Street and Alley Improvement Project in this Feasibility Report are \$101,550 lower than the CIP estimates from August 2017, which represents a decrease of approximately 6%. If the cost of the optional sidewalk along 9<sup>th</sup> Street is included, then the Report costs are \$78,380 or about 4.6% lower than the CIP estimates.

Although the current total estimated Report cost is lower than the CIP estimates, there are two individual segments where the Report costs are notably higher than the CIP. Those segments are 9<sup>th</sup> Avenue, and the Alley North of 3<sup>rd</sup> Avenue. Explanations for those increases are as follows.

In the preliminary design for 9<sup>th</sup> Avenue done with this Report, the construction limits for improvements to 9<sup>th</sup> Avenue now extend completely through both the intersections at 6<sup>th</sup> Street and 7<sup>th</sup> Street. This is an increase in length over the limits used in the CIP estimate, resulting in an increase to the street portion of the cost estimate. With both street intersections now proposed for full reconstruction, the storm sewer in the intersections would need to be replaced as well. Through the preliminary design, it was also determined that additional storm sewer inlet structures should be added to increase the effectiveness of the storm sewer at the intersections. The additional street and storm sewer costs associated with extending the work on 9<sup>th</sup> Avenue through the intersections is the cause for the increase of \$40,740 in the current estimate over the previous CIP estimate.

In the Alley North of 3<sup>rd</sup> Avenue, rock was discovered during the field review and geotechnical investigations done in fall 2017, after the CIP estimates had been prepared. From the detailed cost estimate for the Alley North of 3<sup>rd</sup> Avenue provided in Appendix B6, the value of the rock excavation is shown to be \$19,000. That rock excavation cost is responsible for 75% of the increase in cost. The majority of the remaining difference in cost is due to a larger than typical number of bituminous and concrete driveways along this alley in comparison to gravel driveways.



<p>Table 13</p> <p>Optional Bituminous Alley Pavement</p> <p>Comparison of Report to CIP</p>				
Segment	CIP Estimate	Report Estimate	Report vs. CIP	
			Amount	Percent
Alley N of 2 <sup>nd</sup> Ave	\$27,290	\$15,440	(\$11,850)	-43.42%
Alley N of 3 <sup>rd</sup> Ave	\$30,050	\$18,150	(\$11,900)	-39.60%
Alley N of 4 <sup>th</sup> Ave	\$27,290	\$16,020	(\$11,270)	-41.30%
Alley N of 7 <sup>th</sup> Ave	\$26,990	\$16,020	(\$10,970)	-40.64%
Alley N of 8 <sup>th</sup> Ave	\$26,990	\$16,020	(\$10,970)	-40.64%
<b>Subtotal – Paving</b>	<b>\$138,610</b>	<b>\$81,650</b>	<b>(\$56,960)</b>	<b>-41.09%</b>
Previous Total	\$1,700,420	\$1,622,040	(\$78,380)	-4.61%
<b>Totals with Paving</b>	<b>\$1,839,030</b>	<b>\$1,703,690</b>	<b>(\$135,340)</b>	<b>-7.36%</b>

The preceding table shows that the current estimated cost in this Feasibility Report for the optional alley paving is lower than the CIP estimate for all alley segments proposed in the 2018 Street and Alley Improvement Project. With the inclusion of the alley paving, the total estimated project cost in the Report is \$135,340 lower than the CIP estimates, which equates to approximately 7.4%.

The primary reason for the current Report estimates being lower than the CIP estimates is due to the more detailed analysis of the proposed structural section for the alleys during the preliminary design performed as part of this Report. That analysis led to a reduction in the thickness of the granular material layer, which lowered the net increase to the project cost for the addition of the alley pavement.

## VIII. COST ALLOCATION

As allowed and authorized by Minnesota Statutes, Chapter 429, a portion of the Project Cost is proposed to be assessed against benefiting properties within the project area. The City of Two Harbors has an Special Assessment Policy, adopted by the City Council on February 27, 2017. This section of the Report presents the approach to assignment of costs using the Assessment Policy as guidance. Information is given on the portion of costs to be assessed, the parcels identified to receive assessments, and the method for distributing the assessable costs over the identified properties.

### A. Portion of Cost to Assess

Section 11 of the Two Harbors Special Assessment Policy identifies the portion of cost to be assigned to benefiting properties for each type of improvement. The portion of cost is identified as a percentage of the total cost. Discussion of the percentage for each type of improvement as it applies to the proposed 2018 Project is presented below:

- Street Improvement: 50% is proposed to be assessed to benefitted properties, with 50% being paid by the City. On the 2018 Project, this would apply to 9<sup>th</sup> Avenue.
- Side Streets (north/south): 25% is proposed to be assessed, with 75% being paid by the City. On the 2018 Project, this would apply to 9<sup>th</sup> Street and 13<sup>th</sup> Street.

- **Alleys:** 50% is proposed to be assessed to benefitted properties, with 50% being paid by the City. On the 2018 Project, this would apply to all five blocks of alley.
- **Sidewalk:** For reconstruction of sidewalks, 50% is proposed to be assessed to benefitted properties, with 50% being paid by the City. On the 2018 Project, this would apply to the sidewalks along 9<sup>th</sup> Avenue, as well as portions of existing sidewalks impacted on the south end of 9<sup>th</sup> Street (at 10<sup>th</sup> Avenue) and at the ends of each alley in the Project.
- **Storm Sewer:** For reconstruction, 50% is proposed to be assessed to benefitted properties, with 50% being paid by the City. On the 2018 Project, this would apply to all storm sewer. The storm sewer on the Alley North of 8<sup>th</sup> Avenue and some of the pipes proposed on 13<sup>th</sup> Street will be new pipes, but they are being installed as part of the reconstruction of existing streets, to address existing drainage conditions. Therefore, for purposes of cost allocation they are considered as reconstruction.
- **Sanitary Sewer:** For replacement of existing sanitary sewer mains, 25% of the cost is proposed to be assessed to benefitted properties, with the remaining 75% paid by the City. On the 2018 Project, this would apply to sanitary sewer work on 9<sup>th</sup> Avenue and 13<sup>th</sup> Street.

However, the recommendation is that some costs of the proposed work should be deducted from the total costs before the assessment percentages are applied. The items recommended for deduction are temporary facilities used during the project from which the identified properties receive no permanent benefit. On the 2018 Project, these temporary facilities would be bypass pumping on 9<sup>th</sup> Avenue and 13<sup>th</sup> Street, as well as the new manhole in the alley west of 13<sup>th</sup> Street.

The other item recommended for deduction would be the segment of sanitary sewer extending approximately 50-feet from the manhole in the middle of 13<sup>th</sup> Street along the alley to the east. Since there are no direct service connections to this segment of sewer, it is not readily apparent which are the benefitting properties from its replacement. It could be argued that all properties that contribute flow to this pipe from an upstream location could be considered to benefit. However, that approach would not be practical for this Project. As a result, it is recommended this relatively short segment of sewer replacement be considered a maintenance activity, and its cost be removed from assessments.

- **Water System:** For replacement of existing water mains and associated items such as hydrants and valves, 25% of the cost is proposed to be assessed to benefitted properties, with the remaining 75% paid by the City. On the 2018 Project, this would apply to water system work on 9<sup>th</sup> Avenue.

However, the recommendation is that some costs of the proposed work should be deducted from the total costs before the assessment percentages are applied. The items recommended for deduction are temporary facilities used during the project from which the identified properties receive no permanent benefit. On the 2018 Project, this would be the temporary water system utilized on 9<sup>th</sup> Avenue.

- **Services from the Sanitary Sewer and Water Systems:** For individual services extended from the sanitary sewer and water mains in order to serve a single property, 100% of the costs is proposed to be assessed to the property being served. On the 2018 Project, that would include all sanitary sewer and water services on 9<sup>th</sup> Avenue, and the two sanitary sewer services on 13<sup>th</sup> Street.

The 2018 Street and Alley Improvement Project will be the first project where major reconstruction of all infrastructure elements including sanitary sewer, water, storm sewer, street, and sidewalk are being performed since the Special Assessment Policy was adopted in 2017. Based on the proposed assessments determined through application of the Special Assessment Policy in this Feasibility Report, the City may wish to review the policy.

If the City feels the assessments determined for the 2018 Street and Alley Improvement Project are not appropriate, it could choose to deviate from the Special Assessment Policy for this individual project. It could also choose to revise the Special Assessment Policy. Any modifications made to the Special Assessment Policy after this Report is approved could be applied to the final assessment calculations for this project, provided those policy revisions were made before the final assessment roll for the 2018 Project is prepared.

**B. Properties to be Considered for Assessment**

The properties considered for assessment of the 2018 Street and Alley Improvement Project are those that physically abut the public ROW for each project segment. No properties outside of the blocks identified in the Project Area on Page 1 of this Report were included. For example, no properties on 9<sup>th</sup> Avenue east of 6<sup>th</sup> Street or west of 7<sup>th</sup> Street were considered for assessment, even though the street improvements will include both of those intersections.

The list of all parcels included in consideration for assessment on the 2018 Street and Alley Improvement Project is shown in Appendix C1 of this Report.

**C. Method of Assessment**

The City of Two Harbors Special Assessment Policy allows four different methods for allocating assessable costs to properties. For the 2018 Street and Alley Improvement Project, the “Per Lot Method” is proposed to be used. This is the method that was used in the Feasibility Report for the 2017 Street and Alley Improvement Project, which included many of the same improvements proposed now under the 2018 Project.

The Per Lot Method essentially says that all lots will be treated equally, regardless of area, frontage, zoning, etc. For a project that consists primarily of reconstruction of residential streets, such as the proposed 2018 Project, the Per Lot Method is considered applicable in the sense that all lots abutting a street use the street and sidewalk in similar fashion, and all properties abutting alleys use the alley in the same fashion for garbage service. By using the Per Lot Method, assessments for properties within the same block are kept consistent. There is reduced chance for misunderstandings as to why neighboring properties may be assessed varying amounts, if a method such as Front Footage or Lot Area were used.

In applying the Per Lot Method, parcels that are non-buildable per the requirements of the current Two Harbors City Code are excluded from assessment.

The summary parcel list in Appendix C1 indicates whether each parcel is counted or not. Those parcels with a “0” in the Lot Count column are excluded from assessments.

**D. Assessment Rates**

Applying the above information regarding the portion of costs to assess, the properties to be considered, and the lot count method, proposed assessment rates can be calculated for each type of improvement along each segment within the 2018 Project. The proposed assessment rates are based on the current estimated cost for each improvement type.

The following table show the assessment rate for each type of improvement on each segment of the proposed 2018 Project. For each assessment type, there are two tables. The first table shows the estimated cost of the improvements, the percentage of that cost to be assessed, and the resulting amount to be assessed. The second table shows the amount to be assessed, the number of lots over which to allocate the cost, and the resulting proposed assessment per lot.

1. Street / Alley

Table 14 Street / Alley Improvement Type Assessment Amount by Segment			
Segment	Estimated Cost	% to Assess	Assess Amount
9 <sup>th</sup> Avenue	\$234,250	50%	\$117,125
9 <sup>th</sup> Street	\$135,650	25%	\$33,912
13 <sup>th</sup> Street	\$171,270	25%	\$42,817
Alley North of 2 <sup>nd</sup> Avenue	\$94,750	50%	\$47,375
Alley North of 3 <sup>rd</sup> Avenue	\$122,490	50%	\$61,245
Alley North of 4 <sup>th</sup> Avenue	\$77,770	50%	\$38,885
Alley North of 7 <sup>th</sup> Avenue	\$87,000	50%	\$43,500
Alley North of 8 <sup>th</sup> Avenue	\$108,500	50%	\$54,250
<b>Totals</b>	<b>\$1,031,680</b>		<b>\$439,109</b>

Table 15 Street / Alley Improvement Type Assessment Amount Per Lot			
Segment	Assess Amount	# of Lots	Amount per Lot
9 <sup>th</sup> Avenue	\$117,125	16	\$7,320.31
9 <sup>th</sup> Street	\$33,912	4	\$8,478.13
13 <sup>th</sup> Street	\$42,817	4	\$10,704.38
Alley North of 2 <sup>nd</sup> Avenue	\$47,375	16	\$2,960.94
Alley North of 3 <sup>rd</sup> Avenue	\$61,245	18	\$3,402.50
Alley North of 4 <sup>th</sup> Avenue	\$38,885	16	\$2,430.31
Alley North of 7 <sup>th</sup> Avenue	\$43,500	16	\$2,718.75
Alley North of 8 <sup>th</sup> Avenue	\$54,250	16	\$3,390.63
<b>Totals</b>	<b>\$439,109</b>		

## 2.Sidewalk

Table 16 Sidewalk Improvement Type Assessment Amount by Segment			
Segment	Estimated Cost	% to Assess	Assess Amount
9 <sup>th</sup> Avenue	\$72,880	50%	\$36,440
9 <sup>th</sup> Street	\$6,770	50%	\$3,385
13 <sup>th</sup> Street	\$0	50%	\$0
Alley North of 2 <sup>nd</sup> Avenue	\$2,910	50%	\$1,455
Alley North of 3 <sup>rd</sup> Avenue	\$4,950	50%	\$2,475
Alley North of 4 <sup>th</sup> Avenue	\$2,910	50%	\$1,455
Alley North of 7 <sup>th</sup> Avenue	\$1,460	50%	\$730
Alley North of 8 <sup>th</sup> Avenue	\$1,430	50%	\$715
<b>Totals</b>	<b>\$93,310</b>		<b>\$46,655</b>

Table 17 Sidewalk Improvement Type Assessment Amount Per Lot			
Segment	Assess Amount	# of Lots	Amount per Lot
9 <sup>th</sup> Avenue	\$36,440	16	\$2,277.50
9 <sup>th</sup> Street	\$3,385	4	\$846.25
13 <sup>th</sup> Street	\$0	4	\$0
Alley North of 2 <sup>nd</sup> Avenue	\$1,455	16	\$90.94
Alley North of 3 <sup>rd</sup> Avenue	\$2,475	18	\$137.50
Alley North of 4 <sup>th</sup> Avenue	\$1,455	16	\$90.94
Alley North of 7 <sup>th</sup> Avenue	\$730	16	\$45.63
Alley North of 8 <sup>th</sup> Avenue	\$715	16	\$44.69
<b>Totals</b>	<b>\$46,655</b>		

### 3.Storm Sewer

Table 18 Storm Sewer Improvement Type Assessment Amount by Segment			
Segment	Estimated Cost	% to Assess	Assess Amount
9 <sup>th</sup> Avenue	\$75,630	50%	\$37,815
9 <sup>th</sup> Street	\$29,110	50%	\$14,555
13 <sup>th</sup> Street	\$94,990	50%	\$47,495
Alley North of 2 <sup>nd</sup> Avenue	\$0	50%	\$0
Alley North of 3 <sup>rd</sup> Avenue	\$0	50%	\$0
Alley North of 4 <sup>th</sup> Avenue	\$0	50%	\$0
Alley North of 7 <sup>th</sup> Avenue	\$0	50%	\$0
Alley North of 8 <sup>th</sup> Avenue	\$33,850	50%	\$16,925
<b>Totals</b>	<b>\$233,580</b>		<b>\$116,790</b>

Table 19 Storm Sewer Improvement Type Assessment Amount Per Lot			
Segment	Assess Amount	# of Lots	Amount per Lot
9 <sup>th</sup> Avenue	\$37,815	16	\$2,363.44
9 <sup>th</sup> Street	\$14,555	4	\$3,638.75
13 <sup>th</sup> Street	\$47,495	4	\$11,873.75
Alley North of 2 <sup>nd</sup> Avenue	\$0	16	\$0
Alley North of 3 <sup>rd</sup> Avenue	\$0	18	\$0
Alley North of 4 <sup>th</sup> Avenue	\$0	16	\$0
Alley North of 7 <sup>th</sup> Avenue	\$0	16	\$0
Alley North of 8 <sup>th</sup> Avenue	\$16,925	16	\$1,057.81
<b>Totals</b>	<b>\$116,790</b>		

#### 4. Sanitary Sewer

For sanitary sewer assessment calculations, the estimated costs for the non-assessable portions of the improvements, as previously described, are deducted. The assessment calculations are then performed on only the net assessable improvement cost.

Table 20 Sanitary Sewer Improvement Type Assessment Amount by Segment			
Segment	Assessible Cost	% to Assess	Assess Amount
9 <sup>th</sup> Avenue	\$43,350	25%	\$10,837
13 <sup>th</sup> Street	\$6,260	25%	\$1,565
<b>Totals</b>	<b>\$49,610</b>		<b>\$12,402</b>

Table 21 Sanitary Sewer Improvement Type Assessment Amount Per Lot			
Segment	Assess Amount	# of Lots	Amount per Lot
9 <sup>th</sup> Avenue	\$10,837	16	\$677.34
13 <sup>th</sup> Street	\$1,565	4	\$391.25
<b>Totals</b>	<b>\$12,402</b>		

#### 5. Water System

For water system assessment calculations, the estimated costs for the non-assessable portions of the improvements, as previously described, are deducted. The assessment calculations are then performed on only the net assessable improvement cost.

Table 22 Water System Improvement Type Assessment Amount by Segment			
Segment	Assessible Cost	% to Assess	Assess Amount
9 <sup>th</sup> Avenue	\$54,040	25%	\$13,510
<b>Totals</b>	<b>\$54,040</b>		<b>\$13,510</b>

Table 23 Water System Improvement Type Assessment Amount Per Lot			
Segment	Assess Amount	# of Lots	Amount per Lot
9 <sup>th</sup> Avenue	\$13,510	16	\$844.38
<b>Totals</b>	<b>\$13,510</b>		

#### 6. Services from Sanitary Sewer and Water Systems

For individual service lines extended from the sanitary sewer and water mains to serve individual properties, each property is responsible for 100% of the cost of their service. The cost of each service will be dependent upon the length of pipe needed.

In this Report, average lengths of service pipe were assumed in order to perform the preliminary costs estimates. The sanitary sewer mains on the segment of the 2018 Project are located approximately in the center of the ROW. Therefore, the assumed length of service pipe is the same for lots on either side of the street or alley. However, for the water main on 9<sup>th</sup> Avenue, the main is located on the north half of the road. Therefore, the service lengths for the properties on the north side of 9<sup>th</sup> Avenue will be shorter than the service lengths for properties on the south side. This results in a corresponding difference in the estimated assessments for service costs to properties on the north and south sides of 9<sup>th</sup> Avenue.

Estimated assessments for service costs are shown in the following table.

Table 24 Services from Sanitary Sewer and Water Estimated Cost per Lot	
Improvement Type	Estimated Cost / Lot
9 <sup>th</sup> Avenue – Water Service (Short)	\$2,128.13
9 <sup>th</sup> Avenue – Water Service (Long)	\$3,528.13
9 <sup>th</sup> Avenue - Sanitary Sewer Service	\$2,146.88
13 <sup>th</sup> Street – Sanitary Sewer Service	\$1,340.00

#### E. Optional Improvements

As previously identified, the optional improvements for the 2018 Street and Alley Improvement Project are the addition of sidewalk along 9<sup>th</sup> Street, and the paving of the alleys with bituminous surfacing.

The assessment calculations and resulting costs for each of the optional improvements are shown below.

##### 1. Sidewalk – 9<sup>th</sup> Street

As noted in previous discussion, there are two components in the estimated costs for this improvement. There is an adjustment to the street cost, as well as the cost for the additional sidewalk. The following tables show the estimated assessments due to these components for this optional improvement.



The tables below present the option to construct the sidewalk on the west side of 9<sup>th</sup> Street. The first table shows the estimated cost of each component, the percentage of that cost to be assessed, and the resulting amount to be assessed. The second table shows the amount to be assessed, the number of lots over which to allocate the cost, and the resulting proposed assessment per lot.

Table 25 9 <sup>th</sup> Street Sidewalk – West Side Assessment Amount by Component			
Item	Estimated Cost	% to Assess	Assess Amount
Street Cost Adjustment	\$(520)	25%	\$(130)
Sidewalk Cost	\$18,500	50%	\$9,250
<b>Net Cost</b>	<b>\$17,980</b>		<b>\$9,120</b>

Table 26 9 <sup>th</sup> Street Sidewalk – West Side Assessment Amount Per Lot			
Item	Estimated Cost	# of Lots	Amount per Lot
Street Cost Adjustment	\$(130)	4	\$(32.50)
Sidewalk Cost	\$9,250	4	\$2,312.50
<b>Net Impact Per Lot</b>	<b>\$9,120</b>		<b>\$2,280.00</b>

The tables below present the option to construct the sidewalk on the east side of 9<sup>th</sup> Street. The first table shows the estimated cost of each component, the percentage of that cost to be assessed, and the resulting amount to be assessed. The second table shows the amount to be assessed, the number of lots over which to allocate the cost, and the resulting proposed assessment per lot.

Table 27 9 <sup>th</sup> Street Sidewalk – East Side Assessment Amount by Component			
Item	Estimated Cost	% to Assess	Assess Amount
Street Cost Adjustment	\$2,440	25%	\$610
Sidewalk Cost	\$20,730	50%	\$10,365
<b>Net Cost</b>	<b>\$23,170</b>		<b>\$10,975</b>

<p>Table 28</p> <p>9<sup>th</sup> Street Sidewalk – East Side</p> <p>Assessment Amount Per Lot</p>			
Item	Assess Amount	# of Lots	Amount per Lot
Street Cost Adjustment	\$610	4	\$157.50
Sidewalk Cost	\$10,365	4	\$2,591.25
<b>Net Impact Per Lot</b>	<b>\$10,975</b>		<b>\$2,748.75</b>

## 2. Bituminous Pavement In Alleys

The Two Harbors Special Assessment Policy states that alleys are to be reconstructed to a gravel surfaced condition as the standard. Bituminous pavement in alleys is to be added if residents petition for that improvement. In the event of a petition, the cost for the bituminous pavement in the alley is to be assessed 100% to the properties.

For the 2018 Street and Alley Improvement Project, the City Council could decide to initiate the optional improvement to install bituminous pavement on the alleys, instead of waiting for a resident petition. In the case where the City initiates the installation of bituminous pavement on the alley, it may be more appropriate to assess the costs of that improvement at 50% to the properties, which would be consistent with the remainder of the work in the alley, which for the 2018 Project was initiated by the City.

Following are tables to show the assessment costs for the addition of optional bituminous pavement to the alley segments of the proposed 2018 Project. Tables are provided to show the assessments if the costs are assigned at either 100% to the properties, or 50% to the properties.

The tables below show the assessments if the costs are assigned 100% to the properties. Two tables are shown. The first shows the estimated cost of the improvements, the percentage of that cost to be assessed, and the resulting amount to be assessed. The second table shows the amount to be assessed, the number of lots over which to allocate the cost, and the resulting proposed assessment per lot.

<p>Table 29</p> <p>Bituminous Pavement in Alleys</p> <p>Assessment Amount by Segment</p> <p>100% ASSESSMENT</p>			
Segment	Estimated Cost	% to Assess	Assess Amount
Alley North of 2 <sup>nd</sup> Avenue	\$15,440	100%	\$15,440
Alley North of 3 <sup>rd</sup> Avenue	\$18,150	100%	\$18,150
Alley North of 4 <sup>th</sup> Avenue	\$16,020	100%	\$16,020
Alley North of 7 <sup>th</sup> Avenue	\$16,020	100%	\$16,020
Alley North of 8 <sup>th</sup> Avenue	\$16,020	100%	\$16,020
<b>Totals</b>	<b>\$81,650</b>		<b>\$81,650</b>

Table 30 Bituminous Pavement in Alleys Assessment Amount Per Lot 100% ASSESSMENT			
Segment	Assess Amount	# of Lots	Amount per Lot
Alley North of 2 <sup>nd</sup> Avenue	\$15,440	16	\$965.00
Alley North of 3 <sup>rd</sup> Avenue	\$18,150	18	\$1,008.33
Alley North of 4 <sup>th</sup> Avenue	\$16,020	16	\$1,001.25
Alley North of 7 <sup>th</sup> Avenue	\$16,020	16	\$1,001.25
Alley North of 8 <sup>th</sup> Avenue	\$16,020	16	\$1,001.25
<b>Totals</b>	<b>\$81,650</b>		

The tables below show the assessments if the costs are assigned 50% to the properties. Two tables are shown. The first shows the estimated cost of the improvements, the percentage of that cost to be assessed, and the resulting amount to be assessed. The second table shows the amount to be assessed, the number of lots over which to allocate the cost, and the resulting proposed assessment per lot.

Table 31 Bituminous Pavement in Alleys Assessment Amount by Segment 50% ASSESSMENT			
Segment	Estimated Cost	% to Assess	Assess Amount
Alley North of 2 <sup>nd</sup> Avenue	\$15,440	50%	\$7,720
Alley North of 3 <sup>rd</sup> Avenue	\$18,150	50%	\$9,075
Alley North of 4 <sup>th</sup> Avenue	\$16,020	50%	\$8,010
Alley North of 7 <sup>th</sup> Avenue	\$16,020	50%	\$8,010
Alley North of 8 <sup>th</sup> Avenue	\$16,020	50%	\$8,010
<b>Totals</b>	<b>\$81,650</b>		<b>\$40,825</b>

Table 32 Bituminous Pavement in Alleys Assessment Amount Per Lot 50% ASSESSMENT			
Segment	Assess Amount	# of Lots	Amount per Lot
Alley North of 2 <sup>nd</sup> Avenue	\$7,720	16	\$482.50
Alley North of 3 <sup>rd</sup> Avenue	\$9,075	18	\$504.17
Alley North of 4 <sup>th</sup> Avenue	\$8,010	16	\$500.63
Alley North of 7 <sup>th</sup> Avenue	\$8,010	16	\$500.63
Alley North of 8 <sup>th</sup> Avenue	\$8,010	16	\$500.63
<b>Totals</b>	<b>\$40,825</b>		

## IX. ASSESSMENT SUMMARY

As illustrated in the previous section on Cost Allocation, the assessment rates for the proposed 2018 Street and Alley Improvement Project vary significantly from improvement type to improvement type, and from segment to segment. Reasons for these variations are in the differences of alleys as compared to avenues and streets, and also the differing number of properties on each segment over which the costs can be spread.

The assessment costs identified in the preceding section are summarized in Appendix C2 of this Report. Appendix C2 presents the assessment rates for each type of improvement within each segment of the Project. It further lists which assessments for each improvement type are proposed to be assigned to each of the properties identified in Appendix C1.

This listing in Appendix C2 of the proposed assessments for each property constitutes the proposed preliminary assessment roll for the 2018 Street and Alley Improvement Project. The preliminary assessment roll shows the total estimated assessment to each property within each segment for the base improvements proposed in the Project, as determined from the estimated costs and allocation methodology contained in this Feasibility Report.

For those segments where optional improvements have been identified, the preliminary assessment roll in Appendix C2 shows the estimated assessments from each of those optional improvements, as well as showing the total estimated assessment to each property if the those optional improvements were included in the Project.

As noted previously, the City of Two Harbors will be taking the preliminary assessment roll under advisement, and will consider whether any modifications to the proposed assessments or the Special Assessment Policy should be undertaken.

## X. FINANCING

Project costs are proposed to be partially financed by assessments as discussed in the previous sections of this Report. The remainder of the project costs will be financed by City funds. The City could choose to issue a bond for the project costs, use existing reserves, or employ a combination of those.

Minnesota Statutes, Chapter 429, provide for levying assessments over a period of time; a period of up to 30 years is allowed. Per the City of Two Harbors adopted Special Assessment Policy, the

typical term used for improvements such as those being considered in the 2018 Street and Alley Project is 15 years for surface improvements and 20 years for subsurface improvements. Since the collection of assessments is anticipated to take several years, the City should plan on funding the assessed portion of the project costs through other means for the interim period until assessments are collected.

Statute also allows for the assignment of interest on assessments, up to a Statutory maximum. The Two Harbors Special Assessment Policy states the interest rate shall be the bond rate plus 1% if the City borrows funds for the project costs.

The proposed term and interest rate would be identified prior to the assessment hearing, and would be set by the City Council at the conclusion of that hearing, assuming the assessments are adopted.

The following table shows a summary of the proposed financing for the 2018 Street and Alley Improvement Project, on the basis of assessed costs and City costs. For each, the amount is shown per segment, as well as what portion of the total is represented. It should be noted this table shows the base improvements only; no optional improvements are included.

Table 33 Project Financing Summary by Segment					
Segment	Total Estimated Cost	Assessed Portion		City Portion	
		Amount	Percent	Amount	Percent
9 <sup>th</sup> Avenue	\$590,610	\$295,327.50	50.0%	\$295,282.50	50.0%
9 <sup>th</sup> Street	\$171,530	\$51,852.50	30.2%	\$119,677.50	69.8%
13 <sup>th</sup> Street	\$298,710	\$94,557.50	31.7%	\$204,152.50	68.3%
Alley N of 2 <sup>nd</sup> Ave	\$97,660	\$48,830.00	50.0%	\$48,830.00	50.0%
Alley N of 3 <sup>rd</sup> Ave	\$127,440	\$63,720.00	50.0%	\$63,720.00	50.0%
Alley N of 4 <sup>th</sup> Ave	\$80,680	\$40,340.00	50.0%	\$40,340.00	50.0%
Alley N of 7 <sup>th</sup> Ave	\$88,460	\$44,230.00	50.0%	\$44,230.00	50.0%
Alley N of 8 <sup>th</sup> Ave	\$143,780	\$71,890.00	50.0%	\$71,890.00	50.0%
<b>Totals</b>	<b>\$1,598,870</b>	<b>\$710,747.50</b>	<b>44.5%</b>	<b>\$888,122.50</b>	<b>55.5%</b>

## XI. PUBLIC HEARING

In order to consider the use of assessments for financing a portion of the 2018 Street and Alley Improvement Project, Minnesota Statutes, Chapter 429, requires two public hearings be held regarding the project.

A summary description of the two required hearings is provided below. Additional information regarding the hearings is contained in the Two Harbors Special Assessment Policy.

### A. Improvement Hearing

The first public hearing is referred to as the “improvement hearing”, and is called when the Feasibility Report has been completed and is ready to be presented to the City Council. Notice of the hearing is required to be made to the general public, as well as specifically to those parcels proposed for assessment.

The information from the Feasibility Report is presented at the improvements hearing,

including the estimated project costs and the estimated assessments. After the hearing is closed, if the City wishes to proceed with the project, the City Council then takes action to officially order the improvements.

**B. Assessment Hearing**

The second public hearing is referred to as the “assessment hearing”. The purpose of the assessment hearing is to present the actual assessment roll to the properties proposed to be assessed. Specific notice of the hearing is required to be directly sent to those properties proposed for assessment; notice must also be made to the general public.

To prepare for the assessment hearing, the City must have the final assessment roll prepared with the actual assessments proposed to be levied against the properties. This differs from the improvement hearing, where only estimated assessments were presented. Preparation of the final assessment roll must be based on actual costs, either from construction bids received or from the actual cost of the project after the work is complete. Minnesota Statute allows the assessment hearing to be held either before the award of contract and start of construction, or after construction has been completed and final project costs are known. The Two Harbors Special Assessment Policy states the assessment hearing will be held after the project has been completed.

## **XII. PROJECT SCHEDULE**

Following is the proposed schedule for the 2018 Street and Alley Improvement Project:

- October 5, 2017                      Order Feasibility Report.
- December 5, 2017                  Open House Meeting.
- December 19, 2017                Call for Public Improvement Hearing.
- January 22, 2018                   Receive Feasibility Report.
- January 29, 2018                   Hold Public Improvement Hearing.
- January 29, 2018                   Approve Feasibility Report. Order Project.
- March 26, 2018                    Approve Plans. Set Bid Date. Authorize Advertisement.
- April 24, 2018                      Open Bids.
- May 14, 2018                        Award Contract.
- June 1, 2018                         Start Construction.
- October 12, 2018                  Construction Substantially Complete.
- November 12, 2018                Hold Public Assessment Hearing.

Due to five Mondays in April 2018, the time from the Opening of Bids to Award of Contract is longer than usual. This period could be shortened if a Special City Council Meeting were held on April 30, 2018. In that event, the construction schedule could be accelerated by two weeks.

### **XIII. FEASIBILITY AND RECOMMENDATION**

This Report has been prepared to investigate the potential for making improvements to the existing infrastructure along eight individual blocks of avenues, streets, and alleys within the City of Two Harbors, Minnesota, as described in the Project Area. This Report has identified the recommended improvements to the infrastructure, provided estimated costs of the recommended improvements, and identified a method of cost allocation, consistent with the City of Two Harbors adopted Special Assessment Policy, to finance the improvements.

From an engineering standpoint, this project is feasible, cost effective, and necessary due to the condition of the existing infrastructure. It is also feasible from a construction standpoint, with a detailed project schedule presented for completion of the work in 2018. This project should be made as proposed and not in connection with any other improvement.

#### **A. Recommendations**

Based on the finding of this Report, the following recommendations are presented for consideration by the City Council of Two Harbors:

1. The City of Two Harbors accept this Report.
2. The City of Two Harbors hold a Public Improvement Hearing to receive input on the proposed improvements and provide information to benefitting properties identified for assessment.
3. Upon completion of the Public Improvement Hearing, if the City of Two Harbors wishes to proceed, it approve this Report and use it as a guide for the layout, design, completion, and cost allocation of public improvements to the following:
  - a) 9<sup>th</sup> Avenue from 6<sup>th</sup> Street to 7<sup>th</sup> Street
  - b) 9<sup>th</sup> Street from 10<sup>th</sup> Avenue to 11<sup>th</sup> Avenue
  - c) 13<sup>th</sup> Street from 7<sup>th</sup> Avenue to 8<sup>th</sup> Avenue
  - d) Alley North of 2<sup>nd</sup> Avenue from 4<sup>th</sup> Street to 5<sup>th</sup> Street
  - e) Alley North of 3<sup>rd</sup> Avenue from 3<sup>rd</sup> Street to 4<sup>th</sup> Street
  - f) Alley North of 4<sup>th</sup> Avenue from 5<sup>th</sup> Street to 6<sup>th</sup> Street
  - g) Alley North of 7<sup>th</sup> Avenue from 7<sup>th</sup> Street to 8<sup>th</sup> Street
  - h) Alley North of 8<sup>th</sup> Avenue from 7<sup>th</sup> Street to 8<sup>th</sup> Street
4. To meet the proposed schedule, the City of Two Harbors order the project and authorize preparation of the plans and specifications.



## Appendix A: Figures



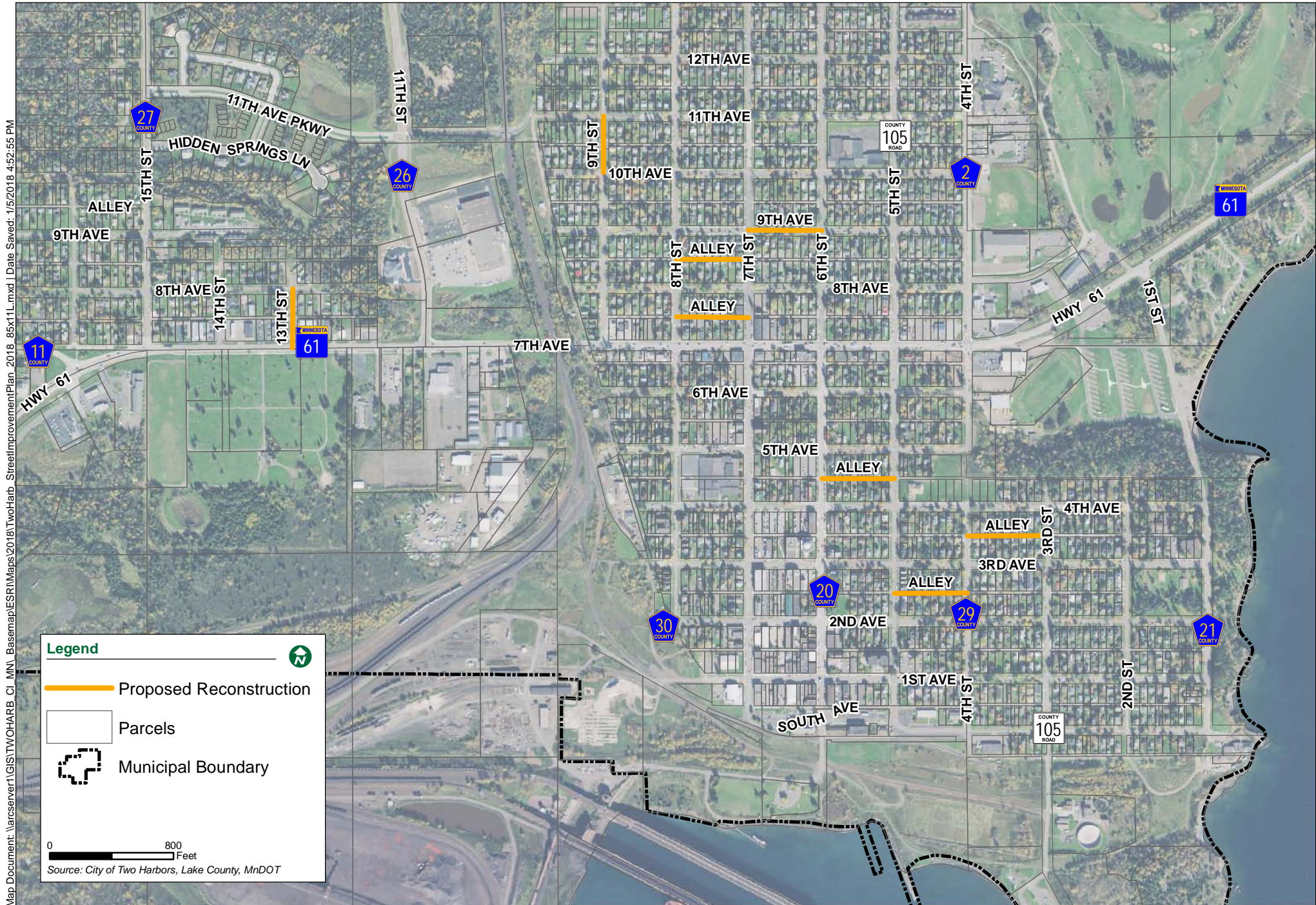


## 2018 Street & Alley Improvements

City of Two Harbors

## Figure 1 - Location Map

January 2018

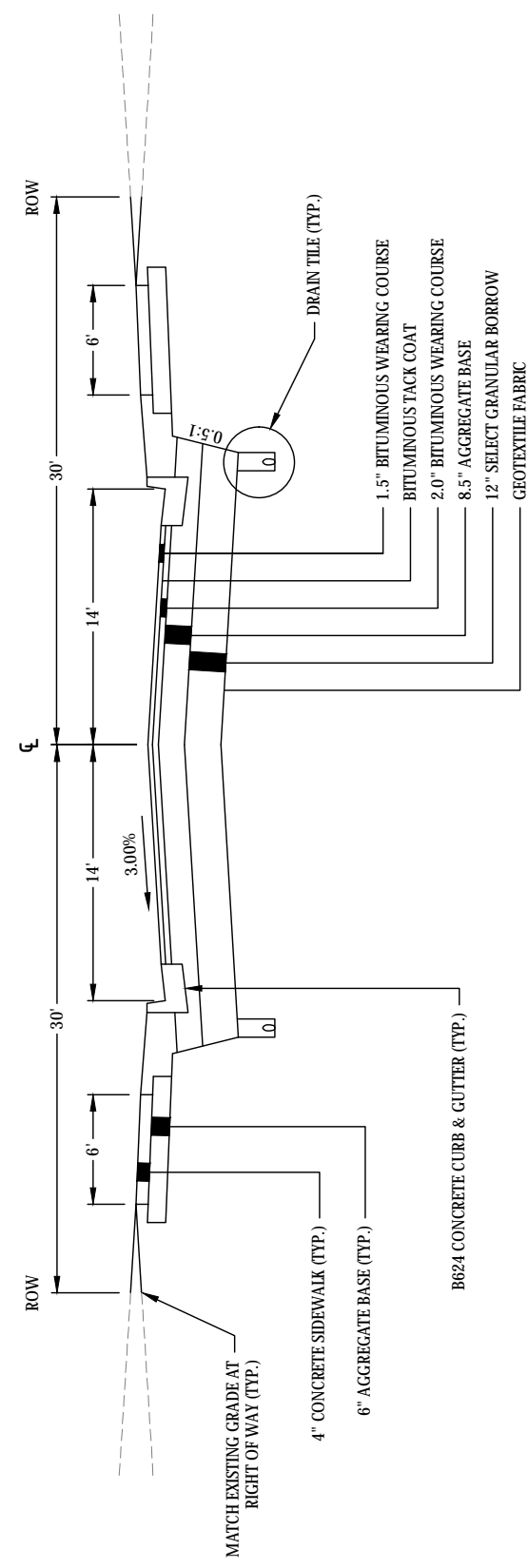




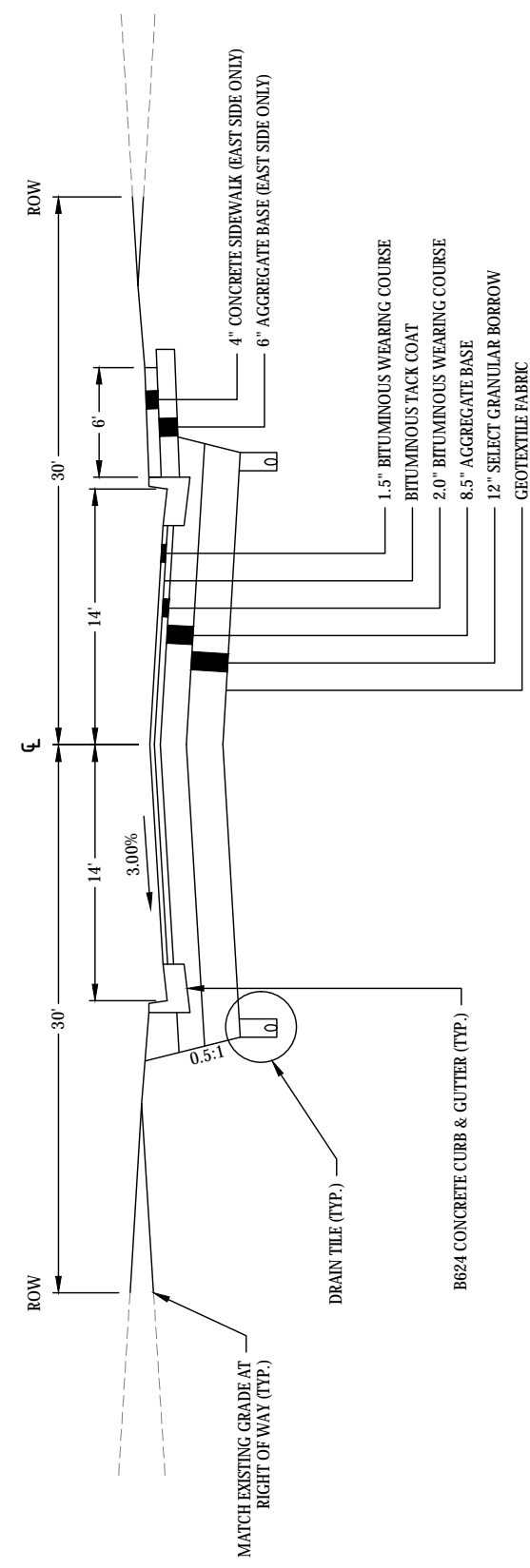
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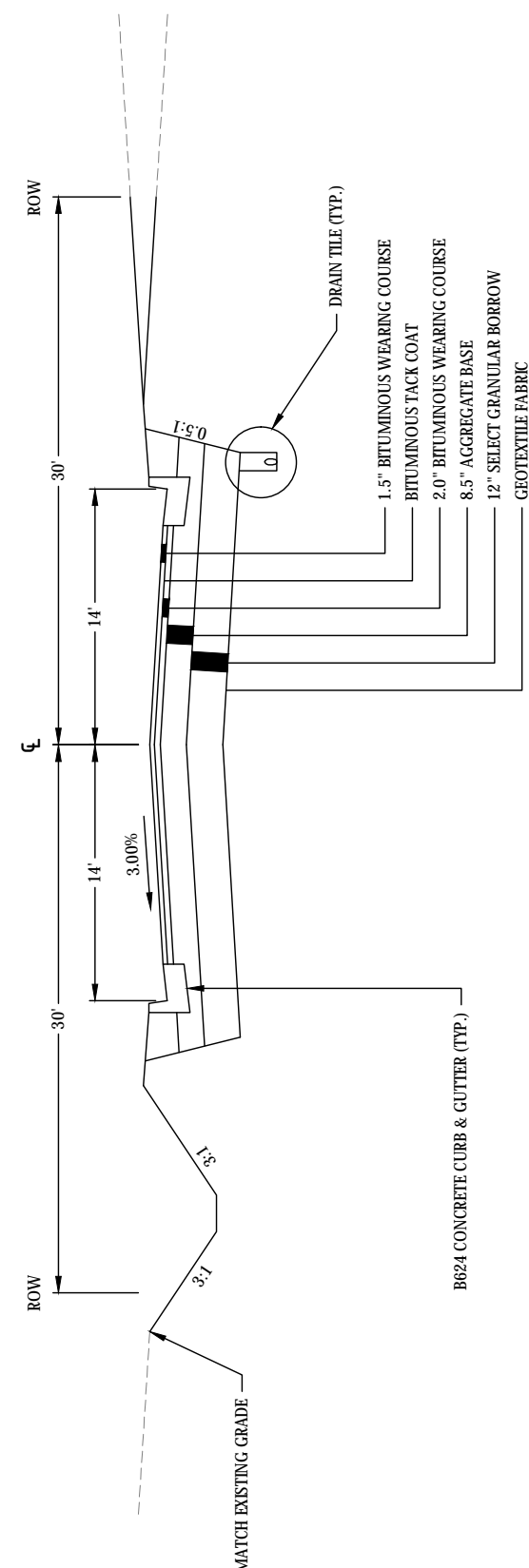
9TH AVENUE



9TH STREET

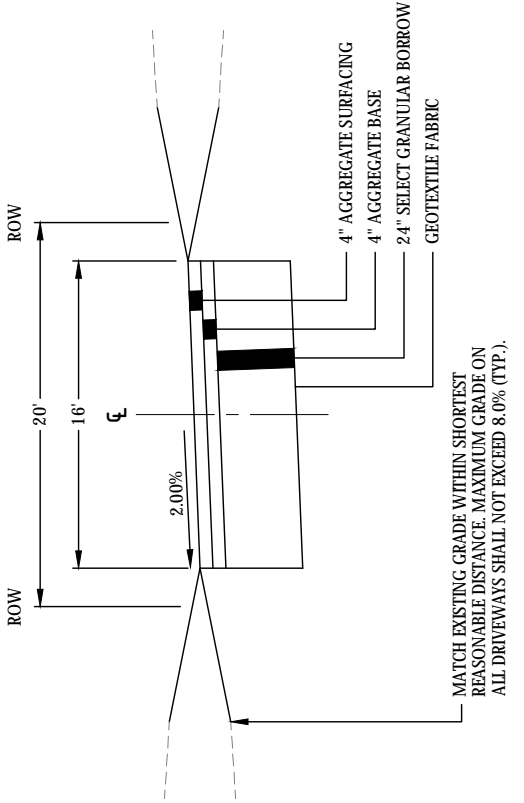


13TH STREET



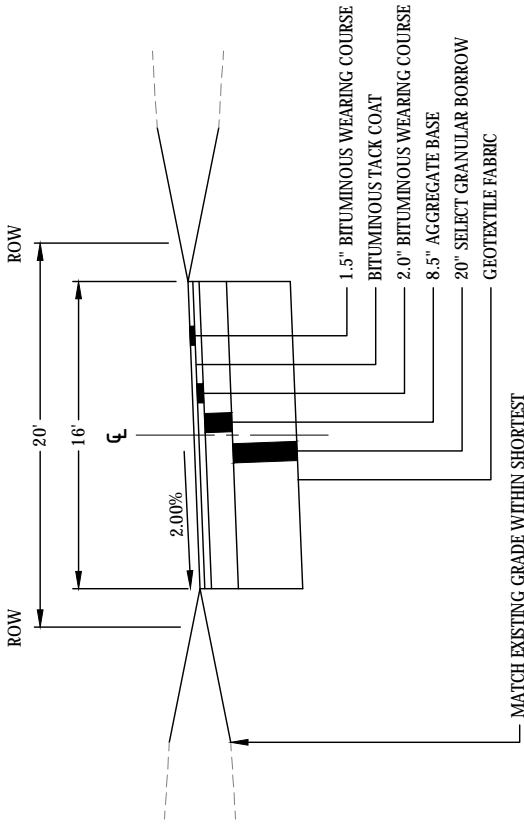
ALLEY GRAVEL SURFACE OPTION

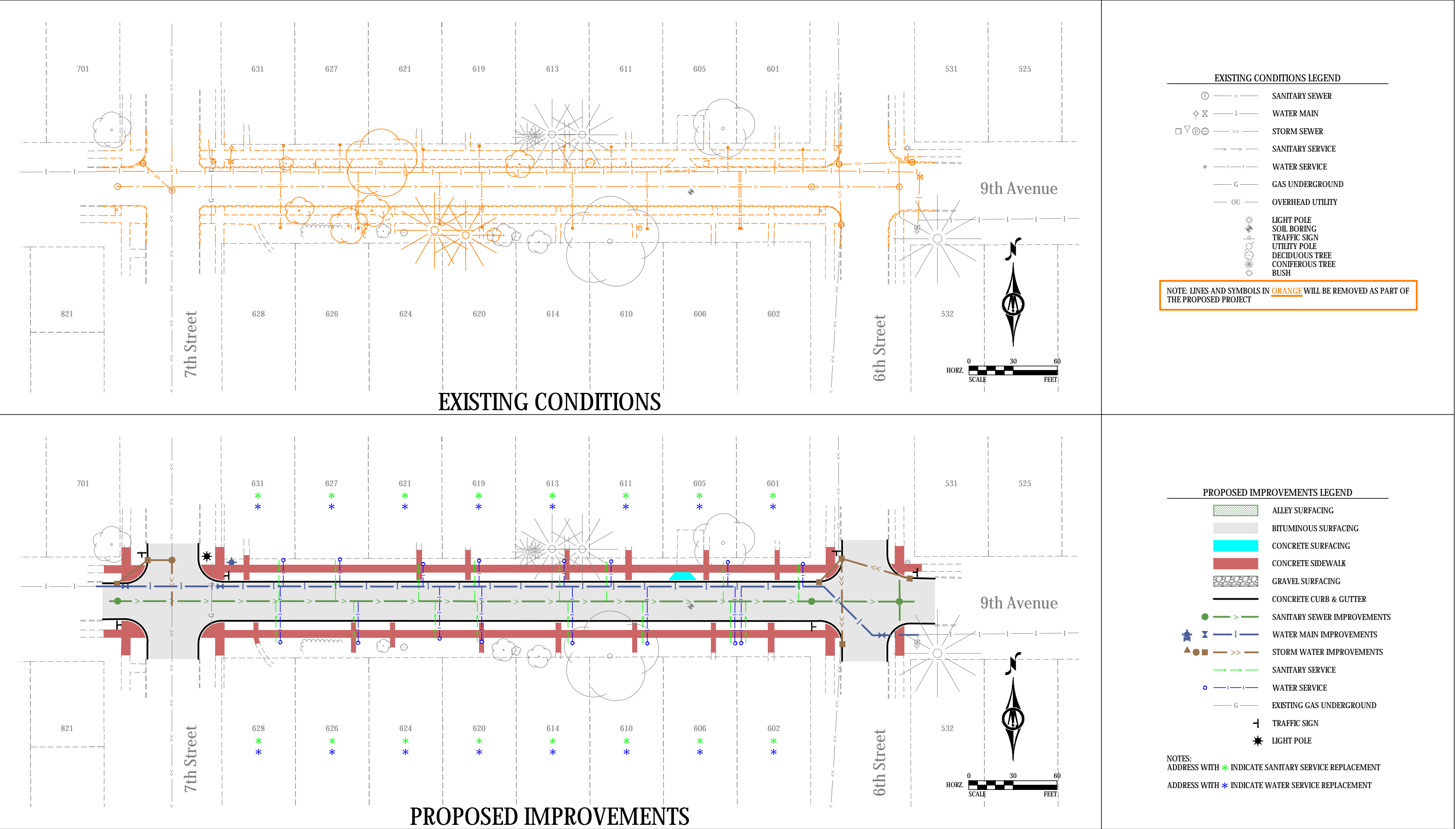
NOTE: DIRECTION OF CROSS SLOPE WILL CHANGE FROM ALLEY TO ALLEY DUE TO DRAINAGE AND OTHER FIELD CONDITIONS.

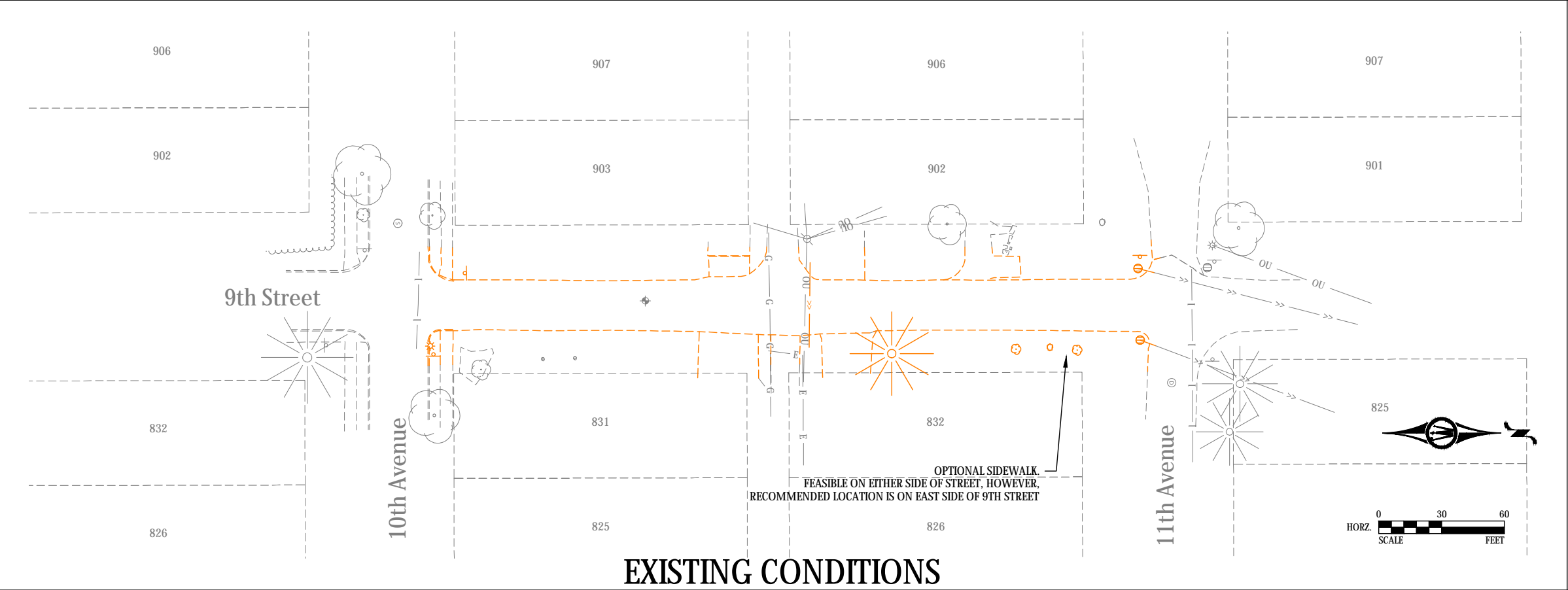


ALLEY BITUMINOUS SURFACE OPTION

NOTE: DIRECTION OF CROSS SLOPE WILL CHANGE FROM ALLEY TO ALLEY DUE TO DRAINAGE AND OTHER FIELD CONDITIONS.

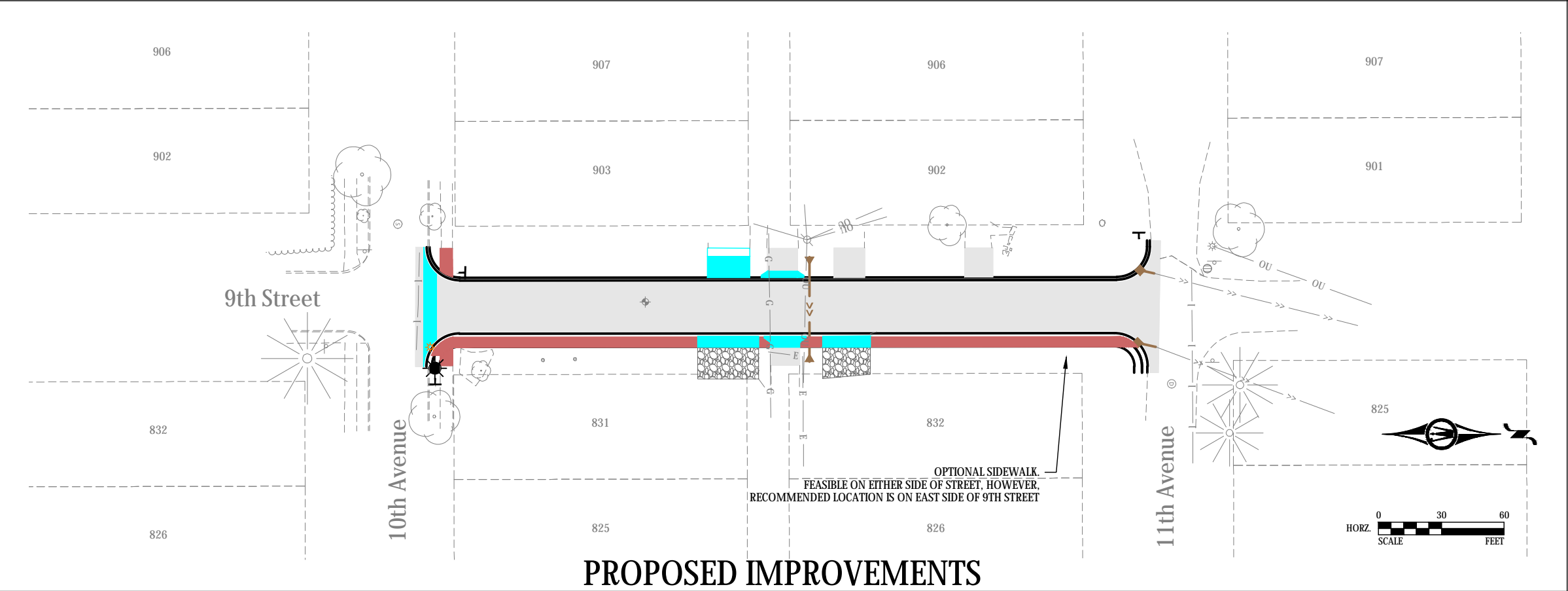






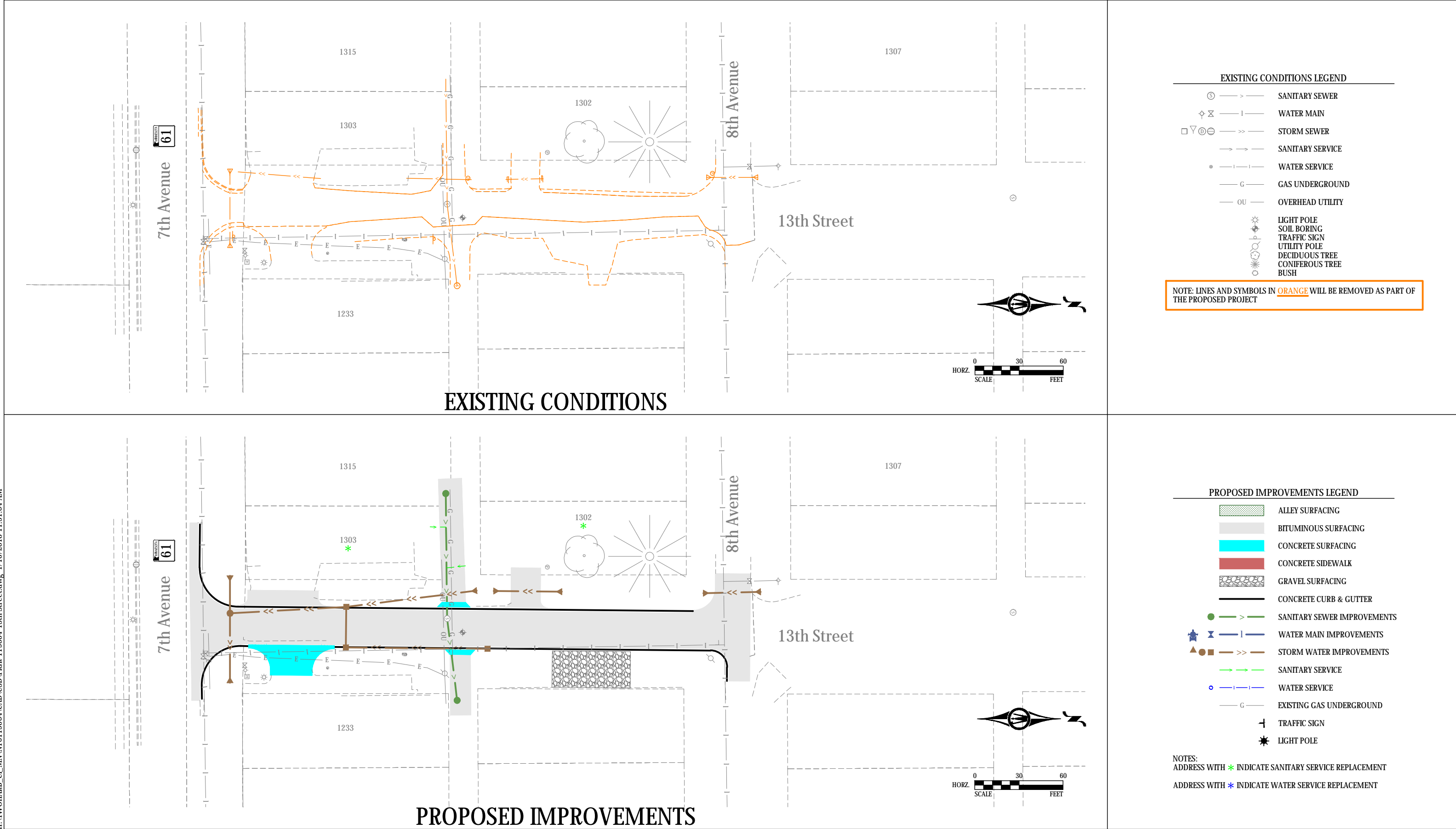
EXISTING CONDITIONS LEGEND	
	SANITARY SEWER
	WATER MAIN
	STORM SEWER
	SANITARY SERVICE
	WATER SERVICE
	GAS UNDERGROUND
	OVERHEAD UTILITY
	LIGHT POLE
	SOIL BORING
	TRAFFIC SIGN
	UTILITY POLE
	DECIDUOUS TREE
	CONIFEROUS TREE
	BUSH

NOTE: LINES AND SYMBOLS IN **ORANGE** WILL BE REMOVED AS PART OF THE PROPOSED PROJECT



PROPOSED IMPROVEMENTS LEGEND	
	ALLEY SURFACING
	BITUMINOUS SURFACING
	CONCRETE SURFACING
	CONCRETE SIDEWALK
	GRAVEL SURFACING
	CONCRETE CURB & GUTTER
	SANITARY SEWER IMPROVEMENTS
	WATER MAIN IMPROVEMENTS
	STORM WATER IMPROVEMENTS
	SANITARY SERVICE
	WATER SERVICE
	EXISTING GAS UNDERGROUND
	TRAFFIC SIGN
	LIGHT POLE

NOTES:  
ADDRESS WITH \* INDICATE SANITARY SERVICE REPLACEMENT  
ADDRESS WITH \* INDICATE WATER SERVICE REPLACEMENT





# 2018 Street & Alley Improvements

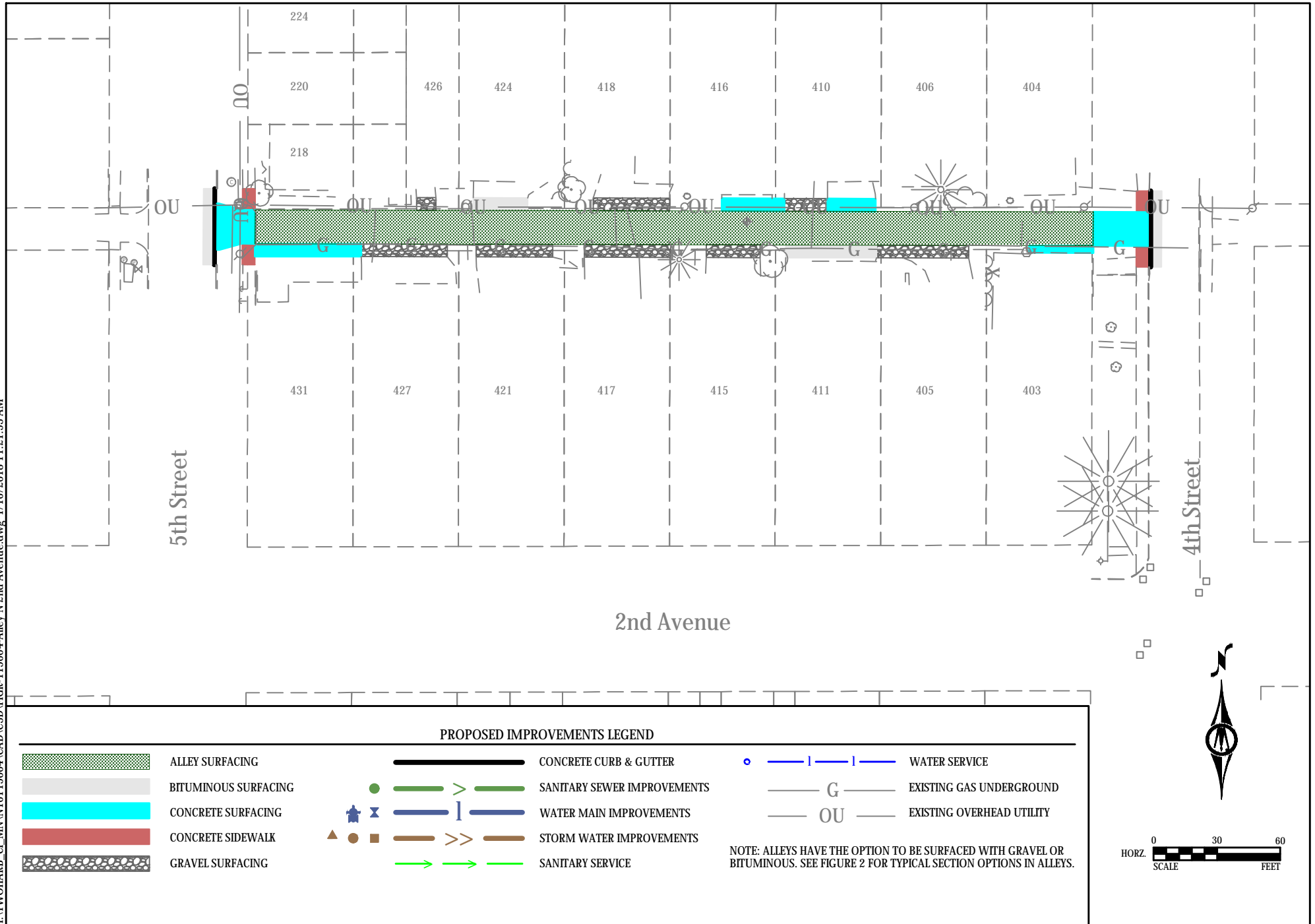
City of Two Harbors

## Figure 6: Alley North of 2nd Avenue

January 2018



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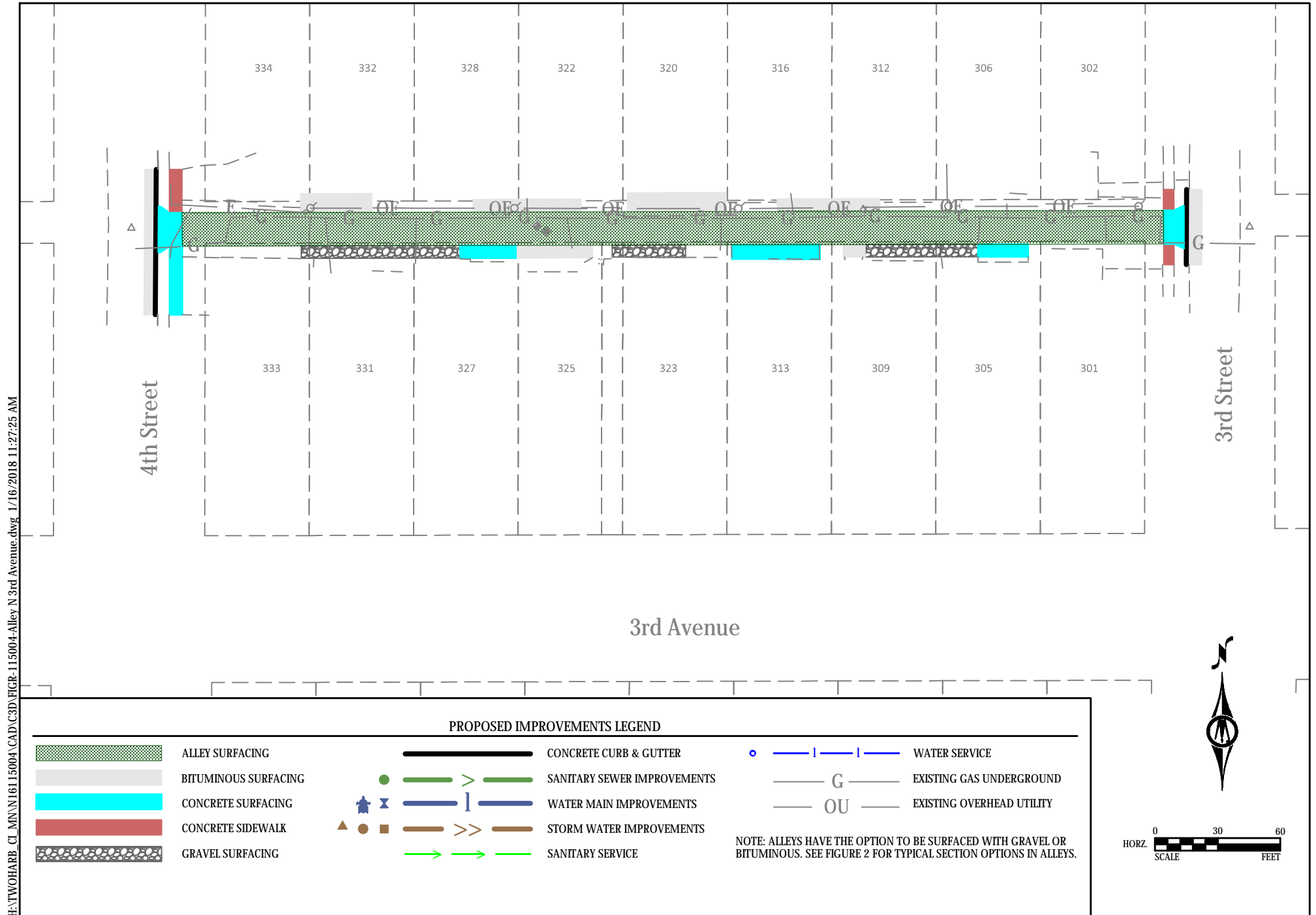


# 2018 Street & Alley Improvements

City of Two Harbors

## Figure 7: Alley North of 3rd Avenue

January 2018



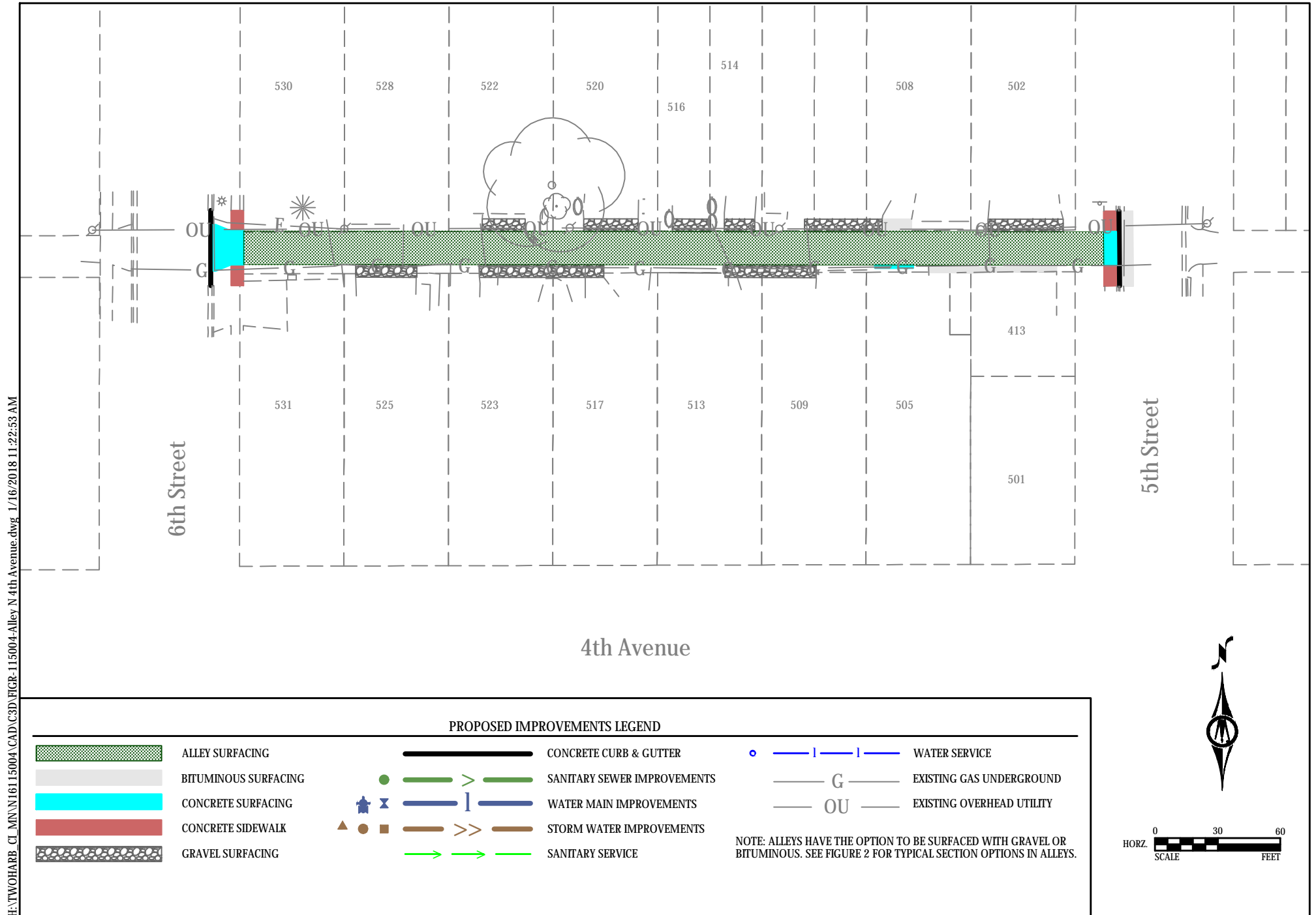


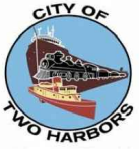
# 2018 Street & Alley Improvements

City of Two Harbors

## Figure 8: Alley North of 4th Avenue

January 2018



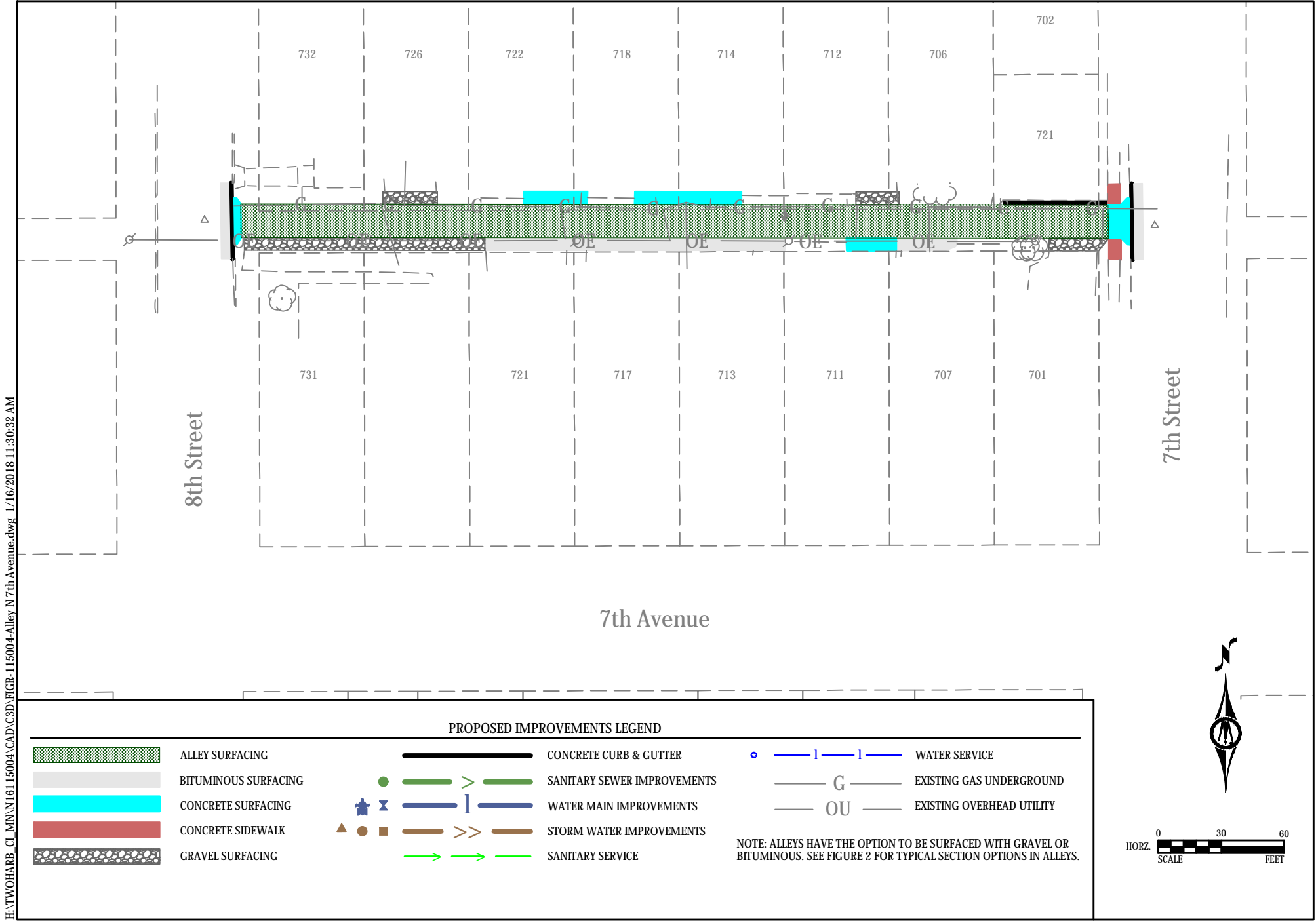


2018 Street & Alley Improvements

City of Two Harbors

Figure 9: Alley North of 7th Avenue

January 2018



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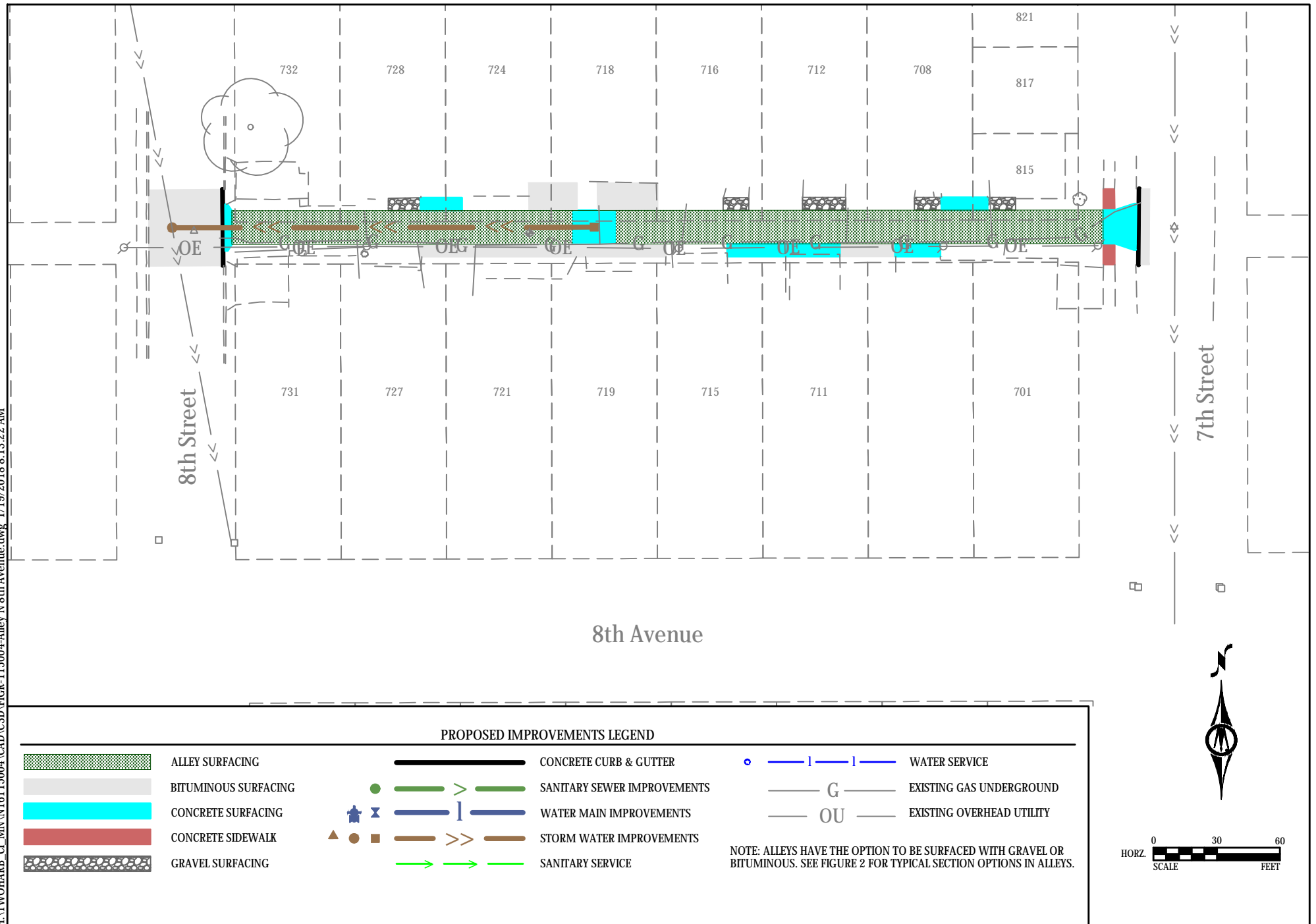


# 2018 Street & Alley Improvements

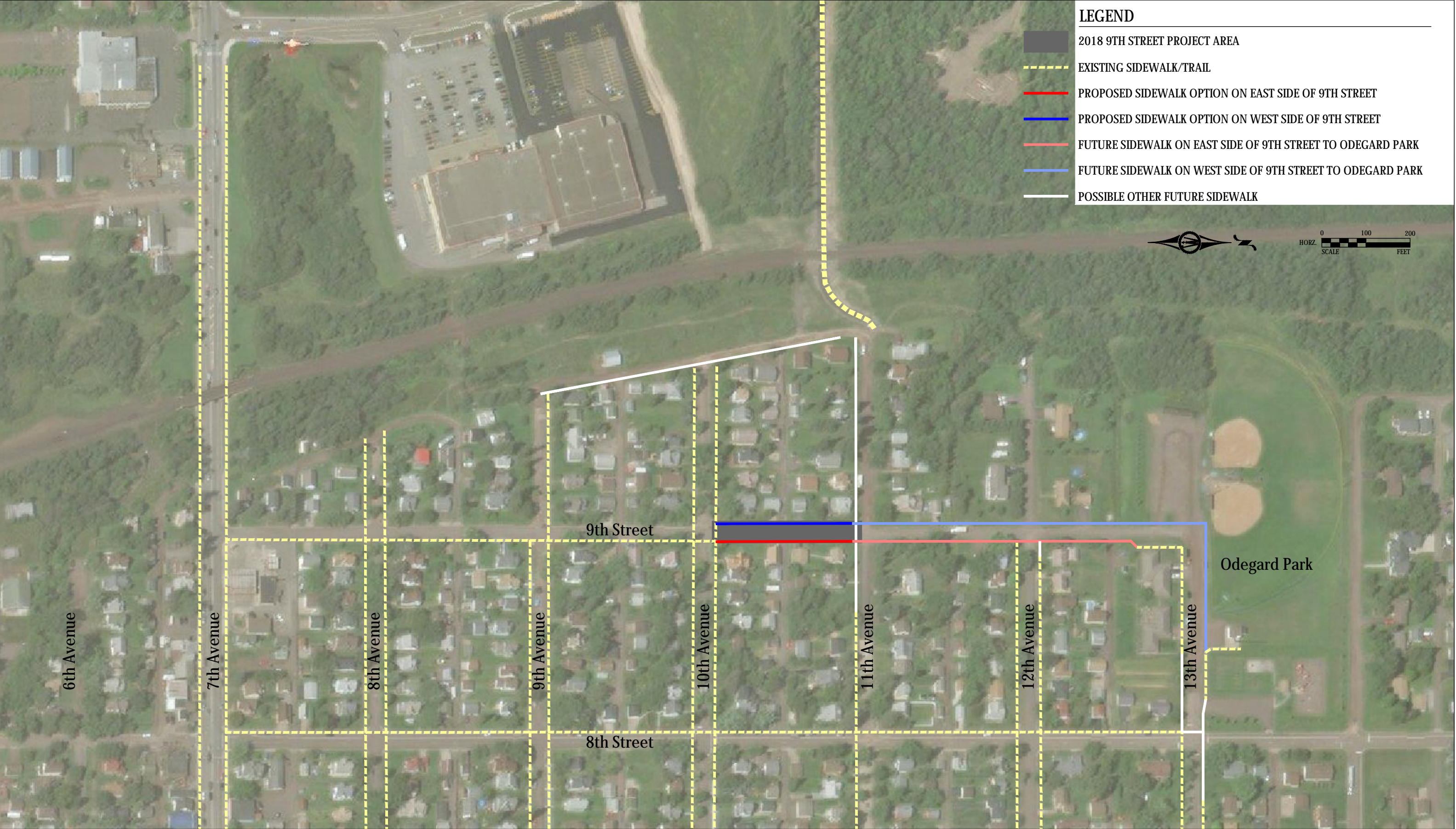
City of Two Harbors

## Figure 10: Alley North of 8th Avenue

January 2018









## Appendix B: Preliminary Cost Estimates

APPENDIX B-1

SUMMARY OF PRELIMINARY COST ESTIMATE  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

BASE 2018 PROJECT

SEGMENT	TOTAL ESTIMATED COSTS	COST BY PART							
		STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER MAIN	WATER SERVICES	
9TH AVENUE	\$ 590,610	\$ 234,250	\$ 72,880	\$ 75,630	\$ 64,830	\$ 34,350	\$ 63,420	\$ 45,250	
9TH STREET	\$ 171,530	\$ 135,650	\$ 6,770	\$ 29,110	\$ -	\$ -	\$ -	\$ -	
13TH STREET	\$ 298,710	\$ 171,270	\$ -	\$ 94,990	\$ 29,770	\$ 2,680	\$ -	\$ -	
ALLEY NORTH OF 2ND AVENUE	\$ 97,660	\$ 94,750	\$ 2,910	\$ -	\$ -	\$ -	\$ -	\$ -	
ALLEY NORTH OF 3RD AVENUE	\$ 127,440	\$ 122,490	\$ 4,950	\$ -	\$ -	\$ -	\$ -	\$ -	
ALLEY NORTH OF 4TH AVENUE	\$ 80,680	\$ 77,770	\$ 2,910	\$ -	\$ -	\$ -	\$ -	\$ -	
ALLEY NORTH OF 7TH AVENUE	\$ 88,460	\$ 87,000	\$ 1,460	\$ -	\$ -	\$ -	\$ -	\$ -	
ALLEY NORTH OF 8TH AVENUE	\$ 143,780	\$ 108,500	\$ 1,430	\$ 33,850	\$ -	\$ -	\$ -	\$ -	
BASE TOTALS	\$ 1,598,870	\$ 1,031,680	\$ 93,310	\$ 233,580	\$ 94,600	\$ 37,030	\$ 63,420	\$ 45,250	

OPTIONAL IMPROVEMENTS

ADD SIDEWALK TO 9TH STREET	NET ADDITIONAL COST	STREET	SIDEWALK
WEST SIDE	\$ 17,980	\$ (520)	\$ 18,500
EAST SIDE	\$ 23,170	\$ 2,440	\$ 20,730

PAVE ALLEYS	NET ADDITIONAL COST	STREET	SIDEWALK
ALLEY NORTH OF 2ND AVENUE	\$ 15,440	\$ 15,440	\$ -
ALLEY NORTH OF 3RD AVENUE	\$ 18,150	\$ 18,150	\$ -
ALLEY NORTH OF 4TH AVENUE	\$ 16,020	\$ 16,020	\$ -
ALLEY NORTH OF 7TH AVENUE	\$ 16,020	\$ 16,020	\$ -
ALLEY NORTH OF 8TH AVENUE	\$ 16,020	\$ 16,020	\$ -
ALLEY PAVEMENT TOTALS	\$ 81,650	\$ 81,650	\$ -



APPENDIX B-1A

COMPARISON OF REPORT TO CIP  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

SEGMENT		TOTAL ESTIMATED COSTS	COST BY PART						
			STREET	SIDEWALK	STORM SEWER	SANITARY SEWER	SANITARY SERVICES	WATER MAIN	WATER SERVICES
9TH AVENUE	REPORT	\$ 590,610	\$ 234,250	\$ 72,880	\$ 75,630	\$ 64,830	\$ 34,350	\$ 63,420	\$ 45,250
	CIP	\$ 549,870	\$ 192,830	\$ 96,850	\$ 15,750	\$ 78,310	\$ 49,600	\$ 68,530	\$ 48,000
	DIFFERENCE	\$ 40,740	\$ 41,420	\$ (23,970)	\$ 59,880	\$ (13,480)	\$ (15,250)	\$ (5,110)	\$ (2,750)
9TH STREET	REPORT	\$ 171,530	\$ 135,650	\$ 6,770	\$ 29,110	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 165,200	\$ 98,980	\$ 29,200	\$ 37,020	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ 6,330	\$ 36,670	\$ (22,430)	\$ (7,910)	\$ -	\$ -	\$ -	\$ -
13TH STREET	REPORT	\$ 298,710	\$ 171,270	\$ -	\$ 94,990	\$ 29,770	\$ 2,680	\$ -	\$ -
	CIP	\$ 363,380	\$ 147,000	\$ -	\$ 112,610	\$ 56,450	\$ -	\$ 47,320	\$ -
	DIFFERENCE	\$ (64,670)	\$ 24,270	\$ -	\$ (17,620)	\$ (26,680)	\$ 2,680	\$ (47,320)	\$ -
ALLEY NORTH OF 2ND AVENUE	REPORT	\$ 97,660	\$ 94,750	\$ 2,910	\$ -	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 188,070	\$ 90,250	\$ -	\$ 97,820	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ (90,410)	\$ 4,500	\$ 2,910	\$ (97,820)	\$ -	\$ -	\$ -	\$ -
ALLEY NORTH OF 3RD AVENUE	REPORT	\$ 127,440	\$ 122,490	\$ 4,950	\$ -	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 101,850	\$ 93,520	\$ -	\$ 8,330	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ 25,590	\$ 28,970	\$ 4,950	\$ (8,330)	\$ -	\$ -	\$ -	\$ -
ALLEY NORTH OF 4TH AVENUE	REPORT	\$ 80,680	\$ 77,770	\$ 2,910	\$ -	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 97,820	\$ 90,250	\$ -	\$ 7,570	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ (17,140)	\$ (12,480)	\$ 2,910	\$ (7,570)	\$ -	\$ -	\$ -	\$ -
ALLEY NORTH OF 7TH AVENUE	REPORT	\$ 88,460	\$ 87,000	\$ 1,460	\$ -	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 92,540	\$ 85,060	\$ -	\$ 7,480	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ (4,080)	\$ 1,940	\$ 1,460	\$ (7,480)	\$ -	\$ -	\$ -	\$ -
ALLEY NORTH OF 8TH AVENUE	REPORT	\$ 143,780	\$ 108,500	\$ 1,430	\$ 33,850	\$ -	\$ -	\$ -	\$ -
	CIP	\$ 141,690	\$ 85,060	\$ -	\$ 56,630	\$ -	\$ -	\$ -	\$ -
	DIFFERENCE	\$ 2,090	\$ 23,440	\$ 1,430	\$ (22,780)	\$ -	\$ -	\$ -	\$ -
TOTALS	REPORT	\$ 1,598,870	\$ 1,031,680	\$ 93,310	\$ 233,580	\$ 94,600	\$ 37,030	\$ 63,420	\$ 45,250
	CIP	\$ 1,700,420	\$ 882,950	\$ 126,050	\$ 343,210	\$ 134,760	\$ 49,600	\$ 115,850	\$ 48,000
	DIFFERENCE	\$ (101,550)	\$ 148,730	\$ (32,740)	\$ (109,630)	\$ (40,160)	\$ (12,570)	\$ (52,430)	\$ (2,750)

## APPENDIX B-2

### 9TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.33	\$ 50,000.00	\$ 16,658.97
TRAFFIC CONTROL	LS	0.33	\$ 7,500.00	\$ 2,498.85
REMOVE CONCRETE CURB & GUTTER	LF	1060	\$ 3.00	\$ 3,180.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	1974	\$ 4.00	\$ 7,897.78
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	108	\$ 12.00	\$ 1,296.00
SALVAGE AND REINSTALL SIGN	EA	4	\$ 150.00	\$ 600.00
SAW CUT BITUMINOUS PAVEMENT	LF	170	\$ 3.00	\$ 510.00
SAW CUT CONCRETE PAVEMENT	LF	119	\$ 6.00	\$ 711.00
COMMON EXCAVATION	CY	1505	\$ 13.50	\$ 20,311.65
SUBGRADE EXCAVATION	CY	188	\$ 15.00	\$ 2,821.06
SUBGRADE PREPERATION	SY	2340	\$ 2.00	\$ 4,679.63
GEOTEXTILE FABRIC, TYPE 5	SY	2470	\$ 2.00	\$ 4,939.63
SELECT GRANULAR BORROW - MODIFIED 7%	CY	858	\$ 24.00	\$ 20,590.37
AGGREGATE BASE, CLASS 5 - STREET	CY	608	\$ 33.00	\$ 20,054.16
B624 C&G	LF	1170	\$ 25.00	\$ 29,250.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	178	\$ 88.00	\$ 15,633.71
BITUMINOUS MATERIAL FOR TACK COAT	GAL	125	\$ 7.00	\$ 877.64
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	227	\$ 85.00	\$ 19,258.92
ADJUST VALVE BOX	EA	1	\$ 300.00	\$ 300.00
STREET SWEEPER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
SKIDSTEER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
REMOVE 4" TREE AND GRUB STUMP	EA	1	\$ 300.00	\$ 300.00
REMOVE 6" TREE AND GRUB STUMP	EA	3	\$ 400.00	\$ 1,200.00
REMOVE 12" TREE AND GRUB STUMP	EA	3	\$ 500.00	\$ 1,500.00
REMOVE 14" TREE AND GRUB STUMP	EA	1	\$ 600.00	\$ 600.00
REMOVE 16" TREE AND GRUB STUMP	EA	1	\$ 700.00	\$ 700.00
REMOVE 26" TREE AND GRUB STUMP	EA	2	\$ 900.00	\$ 1,800.00
REMOVE 30" TREE AND GRUB STUMP	EA	1	\$ 1,000.00	\$ 1,000.00
TOPSOIL COMMON BORROW 4"	CY	26	\$ 30.00	\$ 777.78
SEED AND MULCH	SY	1400	\$ 3.00	\$ 4,200.00
REMOVE SHRUBS	EA	1	\$ 250.00	\$ 250.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 187,397.16
+25% INDIRECT COSTS				\$ 46,849.29
TOTAL COST STREET IMPROVEMENTS				\$ 234,246.45
USE				\$ 234,250.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	6150	\$ 1.00	\$ 6,150.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	120	\$ 40.00	\$ 4,783.33
4" CONCRETE WALK	SF	5220	\$ 6.50	\$ 33,930.00
6" CONCRETE WALK FOR PED RAMPS	SF	930	\$ 8.00	\$ 7,440.00
TRUNCATED DOME PANEL	SF	150	\$ 40.00	\$ 6,000.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 58,303.33
+25% INDIRECT COSTS				\$ 14,575.83
TOTAL SIDEWALK IMPROVEMENTS				\$ 72,879.17
USE				\$ 72,880.00

## APPENDIX B-2

9TH AVENUE PRELIMINARY COST ESTIMATE  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

### STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	EA	144	\$ 10.00	\$ 1,440.00
REMOVE STORM SEWER MANHOLE	EA	3	\$ 400.00	\$ 1,200.00
REMOVE STORM SEWER CATCH BASIN	EA	2	\$ 400.00	\$ 800.00
12" RCP	LF	152	\$ 60.00	\$ 9,120.00
24" RCP	LF	72	\$ 70.00	\$ 5,040.00
2'X3' CB, INCLUDES CASTING	EA	3	\$ 2,500.00	\$ 7,500.00
4' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	5	\$ 3,500.00	\$ 17,500.00
CONNECT TO EXISTING PIPE	EA	2	\$ 1,500.00	\$ 3,000.00
CONSTRUCT MANHOLE OVER EXISTING PIPE	EA	1	\$ 2,000.00	\$ 2,000.00
4" PVC PERFORATED DRAINTILE	LF	950	\$ 12.00	\$ 11,400.00
STORM DRAIN INLET PROTECTION	EA	6	\$ 250.00	\$ 1,500.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 60,500.00
+25% INDIRECT COSTS				\$ 15,125.00
TOTAL COST STORM WATER IMPROVEMENTS				\$ 75,625.00
			USE	\$ 75,630.00

## APPENDIX B-2

### 9TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 5,000.00	\$ 5,000.00
REMOVE SANITARY SEWER PIPE	LF	572	\$ 5.00	\$ 2,860.00
REMOVE SANITARY SEWER MANHOLE	EA	3	\$ 400.00	\$ 1,200.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	552	\$ 45.00	\$ 24,840.00
24" PVC SANITARY SEWER SDR 35, 10'-15' DEEP	LF	20	\$ 100.00	\$ 2,000.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	4	\$ 500.00	\$ 2,000.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	3	\$ 3,500.00	\$ 10,500.00
48" SANITARY SEWER MH OVERDEPTH	LF	8.85	\$ 200.00	\$ 1,770.00
PIPE BEDDING	LF	572	\$ 2.00	\$ 1,144.00
TELEVISIONING	LF	552	\$ 1.00	\$ 552.00
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 51,866.00
+25% INDIRECT COSTS				\$ 12,966.50
TOTAL COST SANITARY SEWER IMPROVEMENTS				\$ 64,832.50
				USE \$ 64,830.00

#### NON-ASSESSABLE IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 5,000.00	\$ 5,000.00
REMOVE SANITARY SEWER PIPE	LF	90	\$ 5.00	\$ 450.00
REMOVE SANITARY SEWER MANHOLE	EA	1	\$ 400.00	\$ 400.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	70	\$ 45.00	\$ 3,150.00
24" PVC SANITARY SEWER SDR 35, 10'-15' DEEP	LF	20	\$ 100.00	\$ 2,000.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	3	\$ 500.00	\$ 1,500.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	1	\$ 3,500.00	\$ 3,500.00
48" SANITARY SEWER MH OVERDEPTH	LF	4.65	\$ 200.00	\$ 930.00
PIPE BEDDING	LF	90	\$ 2.00	\$ 180.00
TELEVISIONING	LF	70	\$ 1.00	\$ 70.00
TOTAL CONSTRUCTION COSTS - NON-ASSESSABLE IMPROVEMENTS				\$ 17,180.00
+25% INDIRECT COSTS				\$ 4,295.00
TOTAL NON-ASSESSABLE IMPROVEMENTS				\$ 21,475.00
				USE \$ 21,480.00

ASSESSABLE SANITARY SEWER IMPROVEMENTS \$ 43,350.00

#### SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	440	\$5.00	\$ 2,200.00
8"X6" PVC SANITARY WYE	EA	16	\$300.00	\$ 4,800.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	440	\$30.00	\$ 13,200.00
SERVICE PIPE BEDDING	LF	440	\$2.00	\$ 880.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	16	\$400.00	\$ 6,400.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 27,480.00
+25% INDIRECT COSTS				\$ 6,870.00
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 34,350.00
				USE \$ 34,350.00

## APPENDIX B-2

### 9TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### WATER MAIN IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE EXISTING WATERMAIN	LF	580	\$ 7.00	\$ 4,060.00
REMOVE GV & BOX	EA	1	\$ 200.00	\$ 200.00
REMOVE 6" PLUG	EA	1	\$ 100.00	\$ 100.00
CONNECT TO EXISTING WATERMAIN	EA	2	\$ 1,500.00	\$ 3,000.00
6" WATERMAIN	LF	565	\$ 42.00	\$ 23,730.00
6" GV & BOX	EA	4	\$ 1,500.00	\$ 6,000.00
ADJUST VALVE BOX	EA	4	\$ 300.00	\$ 1,200.00
HYDRANT	EA	1	\$ 3,500.00	\$ 3,500.00
TEMPORARY WATER SERVICE	LS	1	\$ 7,500.00	\$ 7,500.00
DUCTILE IRON FITTINGS	LB	206	\$ 7.00	\$ 1,442.00
TOTAL CONSTRUCTION COSTS - WATER MAIN IMPROVEMENTS				\$ 50,732.00
+25% INDIRECT COSTS				\$ 12,683.00
TOTAL COST WATER MAIN IMPROVEMENTS				\$ 63,415.00
USE				\$ 63,420.00

#### NON-ASSESSABLE IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
TEMPORARY WATER SERVICE	LS	1	\$ 7,500.00	\$ 7,500.00
TOTAL CONSTRUCTION COSTS - NON-ASSESSABLE IMPROVEMENTS				\$ 7,500.00
+25% INDIRECT COSTS				\$ 1,875.00
TOTAL NON-ASSESSABLE IMPROVEMENTS				\$ 9,375.00
USE				\$ 9,380.00

ASSESSABLE WATER MAIN IMPROVEMENTS \$ 54,040.00

#### WATER SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE WATER SERVICE PIPE	LF	440	\$ 5.00	\$ 2,200.00
REMOVE CURB STOP & BOX	EA	16	\$ 100.00	\$ 1,600.00
3/4" WATER SERVICE	LF	440	\$ 30.00	\$ 13,200.00
3/4" CURB STOP AND BOX	EA	16	\$ 500.00	\$ 8,000.00
3/4" CORPORATION STOP	EA	16	\$ 400.00	\$ 6,400.00
CONNECT TO EXISTING WATER SERVICE	EA	16	\$ 300.00	\$ 4,800.00
TOTAL CONSTRUCTION COSTS - WATER SERVICE IMPROVEMENTS				\$ 36,200.00
+25% INDIRECT COSTS				\$ 9,050.00
TOTAL WATER SERVICE IMPROVEMENTS				\$ 45,250.00
USE				\$ 45,250.00

## APPENDIX B-3

### 9TH STREET PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.09	\$ 50,000.00	\$ 4,611.51
TRAFFIC CONTROL	LS	0.09	\$ 7,500.00	\$ 691.73
REMOVE CONCRETE CURB & GUTTER	LF	50	\$ 3.00	\$ 150.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	1048	\$ 4.00	\$ 4,193.33
SALVAGE AND REINSTALL SIGN	EA	3	\$ 150.00	\$ 450.00
SAW CUT BITUMINOUS PAVEMENT	LF	169	\$ 3.00	\$ 507.00
SAW CUT CONCRETE PAVEMENT	LF	12	\$ 6.00	\$ 72.00
COMMON EXCAVATION	CY	915	\$ 13.50	\$ 12,349.22
SUBGRADE EXCAVATION	CY	114	\$ 15.00	\$ 1,715.17
SUBGRADE PREPERATION	SY	1302	\$ 2.00	\$ 2,603.70
GEOTEXTILE FABRIC, TYPE 5	SY	1384	\$ 2.00	\$ 2,768.15
SELECT GRANULAR BORROW - MODIFIED 7%	CY	477	\$ 24.00	\$ 11,456.30
AGGREGATE BASE, CLASS 5 - STREET	CY	338	\$ 33.00	\$ 11,157.96
B624 C&G	LF	790	\$ 25.00	\$ 19,750.00
CONCRETE VALLEY GUTTER	SY	29	\$ 85.00	\$ 2,436.67
8" CONCRETE ALLEY APRON	SF	120	\$ 10.00	\$ 1,200.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	98	\$ 88.00	\$ 8,612.12
BITUMINOUS MATERIAL FOR TACK COAT	GAL	69	\$ 7.00	\$ 483.47
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	125	\$ 85.00	\$ 10,609.13
BITUMINOUS STREET PATCH	SF	400	\$ 6.00	\$ 2,400.00
STREET SWEEPER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
SKIDSTEER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
TOPSOIL COMMON BORROW 4"	CY	11	\$ 30.00	\$ 330.25
SEED AND MULCH	SY	594	\$ 3.00	\$ 1,783.33
POTHOLE GAS UTILITY SERVICES	EA	2	\$ 100.00	\$ 200.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 108,517.03
+25% INDIRECT COSTS				\$ 27,129.26
TOTAL COST STREET IMPROVEMENTS				\$ 135,646.28
USE				\$ 135,650.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	186	\$ 1.00	\$ 186.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	4	\$ 40.00	\$ 144.67
6" CONCRETE WALK FOR PED RAMPS	SF	186	\$ 8.00	\$ 1,488.00
TRUNCATED DOME PANEL	SF	90	\$ 40.00	\$ 3,600.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 5,418.67
+25% INDIRECT COSTS				\$ 1,354.67
TOTAL SIDEWALK IMPROVEMENTS				\$ 6,773.33
USE				\$ 6,770.00

## APPENDIX B-3

### 9TH STREET PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	EA	64	\$ 10.00	\$ 640.00
REMOVE STORM SEWER CATCH BASIN	EA	2	\$ 400.00	\$ 800.00
12" RCP	LF	20	\$ 60.00	\$ 1,200.00
DUCTILE IRON PIPE - STORM SEWER	LF	44	\$ 70.00	\$ 3,080.00
2'X3' CB, INCLUDES CASTING	EA	2	\$ 2,500.00	\$ 5,000.00
12" FLARED END SECTION WITH TRASH GUARD	EA	2	\$ 1,500.00	\$ 3,000.00
CONNECT TO EXISTING PIPE	EA	2	\$ 1,500.00	\$ 3,000.00
4" PVC PERFORATED DRAINTILE	LF	150	\$ 12.00	\$ 1,800.00
STORM DRAIN INLET PROTECTION	EA	3	\$ 250.00	\$ 750.00
CULVERT/PIPE PROTECTION	EA	1	\$ 250.00	\$ 250.00
DITCH CLEARING AND GRADING	LF	70	\$ 11.00	\$ 770.00
EMBANKMENT FOR BOULEVARD DRAINAGE	LS	1	\$ 3,000.00	\$ 3,000.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 23,290.00
+25% INDIRECT COSTS				\$ 5,822.50
TOTAL COST STORM WATER IMPROVEMENTS				\$ 29,112.50
USE				\$ 29,110.00



## APPENDIX B-4

### 13TH STREET PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.14	\$ 50,000.00	\$ 6,955.56
TRAFFIC CONTROL	LS	0.14	\$ 7,500.00	\$ 1,043.33
REMOVE CONCRETE CURB & GUTTER	LF	130	\$ 3.00	\$ 390.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	1332	\$ 4.00	\$ 5,326.67
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	1070	\$ 6.00	\$ 6,420.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	860	\$ 12.00	\$ 10,320.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	1375	\$ 2.00	\$ 2,750.00
REMOVE CASTING	EA	1	\$ 100.00	\$ 100.00
SALVAGE AND REINSTALL SIGN	EA	4	\$ 150.00	\$ 600.00
SAW CUT BITUMINOUS PAVEMENT	LF	160	\$ 3.00	\$ 480.00
COMMON EXCAVATION	CY	1021	\$ 13.50	\$ 13,785.54
SUBGRADE EXCAVATION	CY	128	\$ 15.00	\$ 1,914.66
SUBGRADE PREPERATION	SY	1478	\$ 2.00	\$ 2,955.56
GEOTEXTILE FABRIC, TYPE 5	SY	1562	\$ 2.00	\$ 3,124.89
SELECT GRANULAR BORROW - MODIFIED 7%	CY	542	\$ 24.00	\$ 13,004.44
AGGREGATE BASE, CLASS 5 - STREET	CY	384	\$ 33.00	\$ 12,665.79
B624 C&G	LF	892	\$ 25.00	\$ 22,300.00
8" CONCRETE ALLEY APRON	SF	108	\$ 10.00	\$ 1,080.00
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	113	\$ 88.00	\$ 9,965.04
BITUMINOUS MATERIAL FOR TACK COAT	GAL	80	\$ 7.00	\$ 559.42
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	144	\$ 85.00	\$ 12,275.77
FURNISH & INSTALL NEW MH CSTG & ADJ RINGS	EA	1	\$ 250.00	\$ 250.00
ADJUST VALVE BOX	EA	4	\$ 300.00	\$ 1,200.00
ADJUST CASTING	EA	1	\$ 300.00	\$ 300.00
STREET SWEEPER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
SKIDSTEER WITH OPERATOR	HR	10	\$ 150.00	\$ 1,500.00
TOPSOIL COMMON BORROW 4"	CY	21	\$ 30.00	\$ 632.72
SEED AND MULCH	SY	1139	\$ 3.00	\$ 3,416.67
POTHOLE GAS UTILITY SERVICES	EA	2	\$ 100.00	\$ 200.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 137,016.05
+25% INDIRECT COSTS				\$ 34,254.01
TOTAL COST STREET IMPROVEMENTS				\$ 171,270.06
				USE \$ 171,270.00

## APPENDIX B-4

### 13TH STREET PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE STORM SEWER PIPE	EA	218	\$ 10.00	\$ 2,180.00
12" RCP	LF	160	\$ 60.00	\$ 9,600.00
15" RCP	LF	132	\$ 60.00	\$ 7,920.00
24" RCP	LF	79	\$ 70.00	\$ 5,530.00
24"x38" ELLIPTICAL STORM SEWER	LF	70	\$ 200.00	\$ 14,000.00
2'X3' CB, INCLUDES CASTING	EA	1	\$ 2,500.00	\$ 2,500.00
4' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	2	\$ 3,500.00	\$ 7,000.00
6' STORM SEWER MH, INCLUDES CASTING	EA	1	\$ 6,400.00	\$ 6,400.00
12" FLARED END SECTION WITH TRASH GUARD	EA	2	\$ 1,500.00	\$ 3,000.00
15" FLARED END SECTION WITH TRASH GUARD	EA	3	\$ 1,500.00	\$ 4,500.00
24"x38" ELLIPTICAL FLARED END SECTION WITH TRASH GUARD	EA	2	\$ 3,300.00	\$ 6,600.00
4" PVC PERFORATED DRAINTILE	LF	480	\$ 12.00	\$ 5,760.00
STORM DRAIN INLET PROTECTION	EA	3	\$ 250.00	\$ 750.00
CULVERT/PIPE PROTECTION	EA	1	\$ 250.00	\$ 250.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 75,990.00
+25% INDIRECT COSTS				\$ 18,997.50
TOTAL COST STORM WATER IMPROVEMENTS				\$ 94,987.50
USE				\$ 94,990.00

## APPENDIX B-4

### 13TH STREET PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### SANITARY SEWER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 5,000.00	\$ 5,000.00
REMOVE SANITARY SEWER PIPE	LF	141	\$ 5.00	\$ 705.00
REMOVE SANITARY SEWER MANHOLE	EA	1	\$ 400.00	\$ 400.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	141	\$ 45.00	\$ 6,345.00
CONNECT TO EXISTING SANITARY MANHOLE	EA	2	\$ 500.00	\$ 1,000.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	2	\$ 500.00	\$ 1,000.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	2	\$ 3,500.00	\$ 7,000.00
48" SANITARY SEWER MH OVERDEPTH	LF	9.70	\$ 200.00	\$ 1,940.00
PIPE BEDDING	LF	141	\$ 2.00	\$ 282.00
TELEVISIONING	LF	141	\$ 1.00	\$ 141.00
TOTAL CONSTRUCTION COSTS - SANITARY SEWER IMPROVEMENTS				\$ 23,813.00
+25% INDIRECT COSTS				\$ 5,953.25
TOTAL COST SEWER IMPROVEMENTS				\$ 29,766.25
				<b>USE \$ 29,770.00</b>

#### NON-ASSESSABLE IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
BYPASS PUMPING	EA	1	\$ 5,000.00	\$ 5,000.00
REMOVE SANITARY SEWER PIPE	LF	56	\$ 5.00	\$ 280.00
REMOVE SANITARY SEWER MANHOLE	EA	1	\$ 400.00	\$ 400.00
8" PVC SANITARY SEWER, SDR 35, 10'-15' DEEP	LF	56	\$ 45.00	\$ 2,520.00
CONNECT TO EXISTING SANITARY MANHOLE	EA	2	\$ 500.00	\$ 1,000.00
CONNECT TO EXISTING SANITARY SEWER PIPE	EA	1	\$ 500.00	\$ 500.00
48" SANITARY SEWER MH, INCL CSTG & ADJ RINGS	EA	2	\$ 3,500.00	\$ 7,000.00
48" SANITARY SEWER MH OVERDEPTH	LF	9.70	\$ 200.00	\$ 1,940.00
PIPE BEDDING	LF	56	\$ 2.00	\$ 112.00
TELEVISIONING	LF	56	\$ 1.00	\$ 56.00
TOTAL CONSTRUCTION COSTS - NON-ASSESSABLE SANITARY SEWER IMPROVEMENTS				\$ 18,808.00
+25% INDIRECT COSTS				\$ 4,702.00
TOTAL NON-ASSESSABLE SANITARY SEWER IMPROVEMENTS				\$ 23,510.00
				<b>USE \$ 23,510.00</b>

**ASSESSABLE SANITARY SEWER IMPROVEMENTS \$ 6,260.00**

#### SANITARY SERVICES

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE SANITARY SEWER SERVICE	LF	20	\$ 5.00	\$ 100.00
8"X6" PVC SANITARY WYE	EA	2	\$ 300.00	\$ 600.00
6" PVC SANITARY SEWER SERVICE PIPE	LF	20	\$ 30.00	\$ 600.00
SERVICE PIPE BEDDING	LF	20	\$ 2.00	\$ 40.00
CONNECT TO EXISTING SANITARY SEWER SERVICE	EA	2	\$ 400.00	\$ 800.00
TOTAL CONSTRUCTION COSTS - SANITARY SERVICE IMPROVEMENTS				\$ 2,140.00
+25% INDIRECT COSTS				\$ 535.00
TOTAL SANITARY SERVICE IMPROVEMENTS				\$ 2,675.00
				<b>USE \$ 2,680.00</b>

## APPENDIX B-5

### ALLEY NORTH OF 2ND AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.08	\$ 50,000.00	\$ 4,019.87
TRAFFIC CONTROL	LS	0.08	\$ 7,500.00	\$ 602.98
REMOVE CONCRETE CURB & GUTTER	LF	72	\$ 3.00	\$ 216.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	800	\$ 4.00	\$ 3,200.00
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	348	\$ 6.00	\$ 2,085.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	640	\$ 12.00	\$ 7,674.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	1275	\$ 2.00	\$ 2,550.00
SAW CUT CONCRETE PAVEMENT	LF	24	\$ 6.00	\$ 144.00
SUBGRADE EXCAVATION	CY	75	\$ 15.00	\$ 1,130.42
SUBGRADE PREPERATION	SY	711	\$ 2.00	\$ 1,422.22
GEOTEXTILE FABRIC, TYPE 5	SY	800	\$ 2.00	\$ 1,600.00
COMMON EXCAVATION, ALLEY	CY	754	\$ 19.00	\$ 14,318.61
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	521	\$ 24.00	\$ 12,515.56
AGGREGATE BASE, CLASS 5 - ALLEY	CY	87	\$ 33.00	\$ 2,868.15
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	83	\$ 36.00	\$ 2,986.67
B624 C&G	LF	72	\$ 25.00	\$ 1,800.00
8" CONCRETE ALLEY APRON	SF	784	\$ 10.00	\$ 7,840.00
BITUMINOUS STREET PATCH	SF	288	\$ 6.00	\$ 1,728.00
STREET SWEEPER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
SKIDSTEER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
REMOVE 4" TREE AND GRUB STUMP	EA	3	\$ 300.00	\$ 900.00
REMOVE BRUSH	EA	3	\$ 350.00	\$ 1,050.00
TOPSOIL COMMON BORROW 4"	CY	5	\$ 30.00	\$ 140.74
SEED AND MULCH	SY	253	\$ 3.00	\$ 760.00
REMOVE CONCRETE FILLED BOLLARD	EA	1	\$ 500.00	\$ 500.00
REMOVE ROCK WALL	EA	1	\$ 500.00	\$ 500.00
REMOVE SHRUBS	EA	1	\$ 250.00	\$ 250.00
POTHOLE GAS UTILITY SERVICES	EA	15	\$ 100.00	\$ 1,500.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 75,802.21
+25% INDIRECT COSTS				\$ 18,950.55
TOTAL COST STREET IMPROVEMENTS				\$ 94,752.76
			USE	\$ 94,750.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	432	\$ 1.00	\$ 432.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	8	\$ 40.00	\$ 336.00
4" CONCRETE WALK	SF	240	\$ 6.50	\$ 1,560.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 2,328.00
+25% INDIRECT COSTS				\$ 582.00
TOTAL SIDEWALK IMPROVEMENTS				\$ 2,910.00
			USE	\$ 2,910.00

## APPENDIX B-6

### ALLEY NORTH OF 3RD AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.10	\$ 50,000.00	\$ 4,851.39
TRAFFIC CONTROL	LS	0.10	\$ 7,500.00	\$ 727.71
REMOVE CONCRETE CURB & GUTTER	LF	106	\$ 3.00	\$ 318.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	853	\$ 4.00	\$ 3,410.00
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	1575	\$ 6.00	\$ 9,447.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	693	\$ 12.00	\$ 8,310.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	835	\$ 2.00	\$ 1,670.00
SAW CUT CONCRETE PAVEMENT	LF	22	\$ 6.00	\$ 132.00
ROCK EXCAVATION	CY	152	\$ 100.00	\$ 15,200.00
SUBGRADE EXCAVATION	CY	69	\$ 15.00	\$ 1,033.08
SUBGRADE PREPERATION	SY	836	\$ 2.00	\$ 1,671.11
GEOTEXTILE FABRIC, TYPE 5	SY	940	\$ 2.00	\$ 1,880.00
COMMON EXCAVATION, ALLEY	CY	689	\$ 19.00	\$ 13,085.72
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	613	\$ 24.00	\$ 14,705.78
AGGREGATE BASE, CLASS 5 - ALLEY	CY	102	\$ 33.00	\$ 3,370.07
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	97	\$ 36.00	\$ 3,509.33
B624 C&G	LF	106	\$ 25.00	\$ 2,650.00
8" CONCRETE ALLEY APRON	SF	467	\$ 10.00	\$ 4,670.00
BITUMINOUS STREET PATCH	SF	496	\$ 6.00	\$ 2,976.00
STREET SWEEPER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
SKIDSTEER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
TOPSOIL COMMON BORROW 4"	CY	6	\$ 30.00	\$ 167.78
SEED AND MULCH	SY	302	\$ 3.00	\$ 906.00
POTHOLE GAS UTILITY SERVICES	EA	18	\$ 100.00	\$ 1,800.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 97,990.98
+25% INDIRECT COSTS				\$ 24,497.74
TOTAL COST STREET IMPROVEMENTS				\$ 122,488.72
				USE \$ 122,490.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	583	\$ 1.00	\$ 583.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	12	\$ 40.00	\$ 494.67
4" CONCRETE WALK	SF	444	\$ 6.50	\$ 2,886.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 3,963.67
+25% INDIRECT COSTS				\$ 990.92
TOTAL SIDEWALK IMPROVEMENTS				\$ 4,954.58
				USE \$ 4,950.00

## APPENDIX B-7

### ALLEY NORTH OF 4TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.07	\$ 50,000.00	\$ 3,632.42
TRAFFIC CONTROL	LS	0.07	\$ 7,500.00	\$ 544.86
REMOVE CONCRETE CURB & GUTTER	LF	72	\$ 3.00	\$ 216.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	791	\$ 4.00	\$ 3,164.44
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	314	\$ 6.00	\$ 1,884.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	28	\$ 12.00	\$ 333.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	1443	\$ 2.00	\$ 2,885.00
SAW CUT CONCRETE PAVEMENT	LF	24	\$ 6.00	\$ 144.00
SUBGRADE EXCAVATION	CY	76	\$ 15.00	\$ 1,142.11
SUBGRADE PREPERATION	SY	738	\$ 2.00	\$ 1,475.56
GEOTEXTILE FABRIC, TYPE 5	SY	830	\$ 2.00	\$ 1,660.00
COMMON EXCAVATION, ALLEY	CY	761	\$ 19.00	\$ 14,466.79
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	541	\$ 24.00	\$ 12,984.89
AGGREGATE BASE, CLASS 5 - ALLEY	CY	90	\$ 33.00	\$ 2,975.70
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	86	\$ 36.00	\$ 3,098.67
B624 C&G	LF	72	\$ 25.00	\$ 1,800.00
8" CONCRETE ALLEY APRON	SF	390	\$ 10.00	\$ 3,900.00
BITUMINOUS STREET PATCH	SF	288	\$ 6.00	\$ 1,728.00
STREET SWEEPER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
SKIDSTEER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
TOPSOIL COMMON BORROW 4"	CY	5	\$ 30.00	\$ 137.96
SEED AND MULCH	SY	248	\$ 3.00	\$ 745.00
POTHOLE GAS UTILITY SERVICES	EA	18	\$ 100.00	\$ 1,800.00
<b>TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS</b>				<b>\$ 62,218.40</b>
+25% INDIRECT COSTS				\$ 15,554.60
<b>TOTAL COST STREET IMPROVEMENTS</b>				<b>\$ 77,773.00</b>
				<b>USE \$ 77,770.00</b>

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	432	\$ 1.00	\$ 432.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	8	\$ 40.00	\$ 336.00
4" CONCRETE WALK	SF	240	\$ 6.50	\$ 1,560.00
<b>TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS</b>				<b>\$ 2,328.00</b>
+25% INDIRECT COSTS				\$ 582.00
<b>TOTAL SIDEWALK IMPROVEMENTS</b>				<b>\$ 2,910.00</b>
				<b>USE \$ 2,910.00</b>

## APPENDIX B-8

### ALLEY NORTH OF 7TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.07	\$ 50,000.00	\$ 3,641.09
TRAFFIC CONTROL	LS	0.07	\$ 7,500.00	\$ 546.16
REMOVE CONCRETE CURB & GUTTER	LF	72	\$ 3.00	\$ 216.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	758	\$ 4.00	\$ 3,031.11
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	860	\$ 6.00	\$ 5,160.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	530	\$ 12.00	\$ 6,360.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	955	\$ 2.00	\$ 1,910.00
SAW CUT CONCRETE PAVEMENT	LF	12	\$ 6.00	\$ 72.00
SUBGRADE EXCAVATION	CY	73	\$ 15.00	\$ 1,099.54
SUBGRADE PREPERATION	SY	738	\$ 2.00	\$ 1,475.56
GEOTEXTILE FABRIC, TYPE 5	SY	830	\$ 2.00	\$ 1,660.00
COMMON EXCAVATION, ALLEY	CY	733	\$ 19.00	\$ 13,927.54
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	541	\$ 24.00	\$ 12,984.89
AGGREGATE BASE, CLASS 5 - ALLEY	CY	90	\$ 33.00	\$ 2,975.70
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	86	\$ 36.00	\$ 3,098.67
B624 C&G	LF	72	\$ 25.00	\$ 1,800.00
B612 C&G	LF	55	\$ 25.00	\$ 1,375.00
8" CONCRETE ALLEY APRON	SF	250	\$ 10.00	\$ 2,500.00
BITUMINOUS STREET PATCH	SF	288	\$ 6.00	\$ 1,728.00
STREET SWEEPER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
SKIDSTEER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
TOPSOIL COMMON BORROW 4"	CY	4	\$ 30.00	\$ 115.56
SEED AND MULCH	SY	208	\$ 3.00	\$ 624.00
POTHOLE GAS UTILITY SERVICES	EA	18	\$ 100.00	\$ 1,800.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 69,600.82
+25% INDIRECT COSTS				\$ 17,400.20
TOTAL COST STREET IMPROVEMENTS				\$ 87,001.02
				USE \$ 87,000.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	216	\$ 1.00	\$ 216.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	4	\$ 40.00	\$ 168.00
4" CONCRETE WALK	SF	120	\$ 6.50	\$ 780.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 1,164.00
+25% INDIRECT COSTS				\$ 291.00
TOTAL SIDEWALK IMPROVEMENTS				\$ 1,455.00
				USE \$ 1,460.00



## APPENDIX B-9

### ALLEY NORTH OF 8TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STREET IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
MOBLIZATION	LS	0.09	\$ 50,000.00	\$ 4,692.99
TRAFFIC CONTROL	LS	0.09	\$ 7,500.00	\$ 703.95
REMOVE CONCRETE CURB & GUTTER	LF	72	\$ 3.00	\$ 216.00
REMOVE PAVEMENT (BITUMINOUS & CONCRETE)	SY	692	\$ 4.00	\$ 2,768.89
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	1392	\$ 6.00	\$ 8,352.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	640	\$ 12.00	\$ 7,680.00
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	370	\$ 2.00	\$ 740.00
SAW CUT CONCRETE PAVEMENT	LF	12	\$ 6.00	\$ 72.00
SUBGRADE EXCAVATION	CY	76	\$ 15.00	\$ 1,135.69
SUBGRADE PREPERATION	SY	738	\$ 2.00	\$ 1,475.56
GEOTEXTILE FABRIC, TYPE 5	SY	830	\$ 2.00	\$ 1,660.00
COMMON EXCAVATION, ALLEY	CY	757	\$ 19.00	\$ 14,385.47
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	541	\$ 24.00	\$ 12,984.89
AGGREGATE BASE, CLASS 5 - ALLEY	CY	90	\$ 33.00	\$ 2,975.70
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	86	\$ 36.00	\$ 3,098.67
B624 C&G	LF	72	\$ 25.00	\$ 1,800.00
8" CONCRETE ALLEY APRON	SF	382	\$ 10.00	\$ 3,820.00
8" CONCRETE PAD	SF	320	\$ 10.00	\$ 3,200.00
BITUMINOUS STREET PATCH	SF	144	\$ 6.00	\$ 864.00
BITUMINOUS STREET PATCH - COUNTY RD (7")	SF	1224	\$ 7.50	\$ 9,180.00
STREET SWEEPER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
SKIDSTEER WITH OPERATOR	HR	5	\$ 150.00	\$ 750.00
TOPSOIL COMMON BORROW 4"	CY	6	\$ 30.00	\$ 170.37
SEED AND MULCH	SY	307	\$ 3.00	\$ 920.00
REMOVE RAILROAD TIE RETAINING WALL	LF	36	\$ 25.00	\$ 900.00
POTHOLE GAS UTILITY SERVICES	EA	15	\$ 100.00	\$ 1,500.00
TOTAL CONSTRUCTION COSTS - STREET IMPROVEMENTS				\$ 86,796.18
+25% INDIRECT COSTS				\$ 21,699.04
TOTAL COST STREET IMPROVEMENTS				\$ 108,495.22
				USE \$ 108,500.00

#### SIDEWALK IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE CONCRETE SIDEWALK	SF	198	\$ 1.00	\$ 198.00
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	4	\$ 40.00	\$ 168.00
4" CONCRETE WALK	SF	120	\$ 6.50	\$ 780.00
TOTAL CONSTRUCTION COSTS - SIDEWALK IMPROVEMENTS				\$ 1,146.00
+25% INDIRECT COSTS				\$ 286.50
TOTAL SIDEWALK IMPROVEMENTS				\$ 1,432.50
				USE \$ 1,430.00

## APPENDIX B-9

### ALLEY NORTH OF 8TH AVENUE PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### STORM WATER IMPROVEMENTS

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
12" RCP	LF	200	\$ 60.00	\$ 12,000.00
30" RCP	LF	20	\$ 100.00	\$ 2,000.00
4' STORM SEWER CBMH/MH, INCLUDES CASTING	EA	2	\$ 3,500.00	\$ 7,000.00
CONSTRUCT MANHOLE OVER EXISTING PIPE	EA	1	\$ 2,000.00	\$ 2,000.00
4" PVC PERFORATED DRAINTILE	LF	340	\$ 12.00	\$ 4,080.00
TOTAL CONSTRUCTION COSTS - STORM WATER IMPROVEMENTS				\$ 27,080.00
+25% INDIRECT COSTS				\$ 6,770.00
TOTAL COST STORM WATER IMPROVEMENTS				\$ 33,850.00
USE				\$ 33,850.00

## APPENDIX B-10

### OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### 9TH STREET - STREET IMPROVEMENTS DUE TO SIDEWALK ON WEST SIDE OF STREET

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	11.00	\$ 6.00	\$ 66.00
REMOVE & REPLACE CONCRETE DRIVEWAY	SF	-40.00	\$ 12.00	\$ (480.00)
TOTAL CONSTRUCTION COSTS				\$ (414.00)
+25% INDIRECT COSTS				\$ (103.50)
TOTAL COSTS				\$ (517.50)
				USE \$ (520.00)

#### 9TH STREET - SIDEWALK IMPROVEMENTS DUE TO SIDEWALK ON WEST SIDE OF STREET

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	38.38	\$ 40.00	\$ 1,535.33
8" CONCRETE ALLEY APRON	SF	133.50	\$ 10.00	\$ 1,335.00
4" CONCRETE WALK	SF	1756.50	\$ 6.50	\$ 11,417.25
6" CONCRETE WALK FOR PED RAMPS	SF	24.00	\$ 8.00	\$ 192.00
TRUNCATED DOME PANEL	SF	8.00	\$ 40.00	\$ 320.00
TOTAL CONSTRUCTION COSTS				\$ 14,799.58
+25% INDIRECT COSTS				\$ 3,699.90
TOTAL COSTS				\$ 18,499.48
				USE \$ 18,500.00

ADDITIONAL COSTS TO INSTALL SIDEWALK ON THE WEST SIDE OF 9TH STREET \$ 17,980.00

#### 9TH STREET - STREET IMPROVEMENTS DUE TO SIDEWALK ON EAST SIDE OF STREET

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
REMOVE & REPLACE BITUMINOUS DRIVEWAY	SF	-179.00	\$ 6.00	\$ (1,074.00)
REMOVE & REPLACE GRAVEL DRIVEWAY	SF	757.00	\$ 2.00	\$ 1,514.00
COMMON EXCAVATION	CY	98.30	\$ 13.50	\$ 1,327.05
SUBGRADE EXCAVATION	CY	12.29	\$ 15.00	\$ 184.31
TOTAL CONSTRUCTION COSTS				\$ 1,951.36
+25% INDIRECT COSTS				\$ 487.84
TOTAL COSTS				\$ 2,439.20
				USE \$ 2,440.00

#### 9TH STREET - SIDEWALK IMPROVEMENTS DUE TO SIDEWALK ON EAST SIDE OF STREET

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
AGGREGATE BASE, CLASS 5 -SIDEWALK/PEDS	CY	38.38	\$ 40.00	\$ 1,535.33
8" CONCRETE ALLEY APRON	SF	144.00	\$ 10.00	\$ 1,440.00
4" CONCRETE WALK	SF	1746.00	\$ 6.50	\$ 11,349.00
6" CONCRETE WALK FOR PED RAMPS	SF	24.00	\$ 8.00	\$ 192.00
TRUNCATED DOME PANEL	SF	8.00	\$ 40.00	\$ 320.00
REMOVE 4" TREE AND GRUB STUMP	EA	2.00	\$ 300.00	\$ 600.00
REMOVE 20" TREE AND GRUB STUMP	EA	1.00	\$ 800.00	\$ 800.00
REMOVE BRUSH	EA	1.00	\$ 350.00	\$ 350.00
TOTAL CONSTRUCTION COSTS				\$ 16,586.33
+25% INDIRECT COSTS				\$ 4,146.58
TOTAL COSTS				\$ 20,732.92
				USE \$ 20,730.00

ADDITIONAL COSTS TO INSTALL SIDEWALK ON THE EAST SIDE OF 9TH STREET \$ 23,170.00

## APPENDIX B-10

### OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### ALLEY NORTH OF 2ND AVENUE

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	-87	\$ 24.00	\$ (2,085.93)
AGGREGATE BASE, CLASS 5 - ALLEY	CY	98	\$ 33.00	\$ 3,226.67
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	-83	\$ 36.00	\$ (2,986.67)
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	71	\$ 88.00	\$ 6,206.93
BITUMINOUS MATERIAL FOR TACK COAT	GAL	50	\$ 7.00	\$ 348.44
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	90	\$ 85.00	\$ 7,646.22
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 12,355.67</b>
+25% INDIRECT COSTS				\$ 3,088.92
<b>TOTAL COSTS</b>				<b>\$ 15,444.59</b>
				<b>USE \$ 15,440.00</b>

#### ALLEY NORTH OF 3RD AVENUE

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	-102	\$ 24.00	\$ (2,450.96)
AGGREGATE BASE, CLASS 5 - ALLEY	CY	115	\$ 33.00	\$ 3,791.33
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	-97	\$ 36.00	\$ (3,509.33)
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	83	\$ 88.00	\$ 7,293.15
BITUMINOUS MATERIAL FOR TACK COAT	GAL	58	\$ 7.00	\$ 409.42
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	106	\$ 85.00	\$ 8,984.31
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 14,517.92</b>
+25% INDIRECT COSTS				\$ 3,629.48
<b>TOTAL COSTS</b>				<b>\$ 18,147.40</b>
				<b>USE \$ 18,150.00</b>

#### ALLEY NORTH OF 4TH AVENUE

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	-90	\$ 24.00	\$ (2,164.15)
AGGREGATE BASE, CLASS 5 - ALLEY	CY	101	\$ 33.00	\$ 3,347.67
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	-86	\$ 36.00	\$ (3,098.67)
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	73	\$ 88.00	\$ 6,439.69
BITUMINOUS MATERIAL FOR TACK COAT	GAL	52	\$ 7.00	\$ 361.51
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	93	\$ 85.00	\$ 7,932.96
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 12,819.01</b>
+25% INDIRECT COSTS				\$ 3,204.75
<b>TOTAL COSTS</b>				<b>\$ 16,023.76</b>
				<b>USE \$ 16,020.00</b>

## APPENDIX B-10

### OPTIONAL IMPROVEMENTS TO PRELIMINARY COST ESTIMATE 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### ALLEY NORTH OF 7TH AVENUE

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	-90	\$ 24.00	\$ (2,164.15)
AGGREGATE BASE, CLASS 5 - ALLEY	CY	101	\$ 33.00	\$ 3,347.67
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	-86	\$ 36.00	\$ (3,098.67)
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	73	\$ 88.00	\$ 6,439.69
BITUMINOUS MATERIAL FOR TACK COAT	GAL	52	\$ 7.00	\$ 361.51
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	93	\$ 85.00	\$ 7,932.96
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 12,819.01</b>
+25% INDIRECT COSTS				\$ 3,204.75
<b>TOTAL COSTS</b>				<b>\$ 16,023.76</b>
				<b>USE \$ 16,020.00</b>

#### ALLEY NORTH OF 8TH AVENUE

ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL COST
SELECT GRANULAR BORROW - MODIFIED 7% - ALLEY	CY	-90	\$ 24.00	\$ (2,164.15)
AGGREGATE BASE, CLASS 5 - ALLEY	CY	101	\$ 33.00	\$ 3,347.67
AGGREGATE SURFACE, CLASS 1 - ALLEY	CY	-86	\$ 36.00	\$ (3,098.67)
TYPE SP 9.5 WEARING COURSE MIXTURE (3,C)	TN	73	\$ 88.00	\$ 6,439.69
BITUMINOUS MATERIAL FOR TACK COAT	GAL	52	\$ 7.00	\$ 361.51
TYPE SP 12.5 WEARING COURSE MIXTURE (3,C)	TN	93	\$ 85.00	\$ 7,932.96
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$ 12,819.01</b>
+25% INDIRECT COSTS				\$ 3,204.75
<b>TOTAL COSTS</b>				<b>\$ 16,023.76</b>
				<b>USE \$ 16,020.00</b>

## Appendix C: Assessment Information

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### 9th Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7662-47010	602 9TH AVE	HANSON CHRISTOPHER J	1	
23-7662-47020	606 9TH AVE	FALK DONALD R ET UX	1	
23-7662-47030	610 9TH AVE	SINES BENJAMIN W	1	
23-7662-47040	614 9TH AVE	SEIPKE JAMES M	1	
23-7662-47050	620 9TH AVE	THOMAS TODD A & JONI M	1	
23-7662-47060	624 9TH AVE	LARSON STEVEN A	1	
23-7662-47070	626 9TH AVE	LUNDGREN JESSE R	1	
23-7662-47080	628 9TH AVE	ANDERSON JOHN O & BARBARA J	1	
23-7663-54090	631 9TH AVE	SUNDBERG MANDY A & CONNOR	1	
23-7663-54100	627 9TH AVE	SWANSON STEVEN D	1	
23-7663-54110	621 9TH AVE	NELSON ERIC S & CYBELLE	1	
23-7663-54120	619 9TH AVE	BARTELT CLARK	1	
23-7663-54130	613 9TH AVE	LAMPELA DENNIS J & AMBUR S	1	
23-7663-54140	611 9TH AVE	JOHNSON PHILLIP A & LYNDA D	1	
23-7663-54150	605 9TH AVE	LANIGAN EVA M	1	
23-7663-54160	601 9TH AVE	BATA JOSEPH W & KATHY R	1	
Total Number of Units			16	

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### 9th Street

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7663-58010	902 11TH AVE	HOULE ADDISON D	1	
23-7663-58160	903 10TH AVE	CARDINAL SUE I +LILLEGAARD DANIEL J	1	
23-7663-59080	832 11TH AVE	EWINSKI STEPHEN P & RACHEL K	1	
23-7663-59090	831 10TH AVE	LUECK JOSHUA H	1	
Total Number of Units			4	

#### 13th Street

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7648-01090	1233 7TH AVE	O'REILLY AUTO ENTERPRISES LLC	1	
23-7648-01100		MYRDAL NEAL R & LAURIE M	1	
23-7648-02010	1303 7TH AVE	MYRDAL NEAL & LAURIE	1	
23-7648-02160	1302 8TH AVE	JOHNSON TERRANCE L & LOUISE I	1	
Total Number of Units			4	



## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### Alley North of 2nd Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7660-08050	418 3RD AVE	TRANAH HOLDINGS LLC	1	
23-7660-08060	424 3RD AVE	WILLIAMS JAMES D & C CHRISTINE	1	
23-7660-08070	426 3RD AVE	ANDERSON SHARON A	1	
23-7660-08074		TRUSCOTT CHARLES W ET UX	0	Connected to 23-7660-08083.
23-7660-08083	218 5TH ST	TRUSCOTT CHARLES W ET UX	1	
23-7660-08090	431 2ND AVE	BRENNA RANDALL A	1	
23-7660-08100	427 2ND AVE	ANDERSON CURTIS C & DEBORA L	1	
23-7660-08110	421 2ND AVE	PARON DEAN & JILL	1	
23-7660-08120	417 2ND AVE	LEVY MELISSA A	1	
23-7664-08010	404 3RD AVE	HEFTER URIAH J & HEATHER C	1	
23-7664-08020	406 3RD AVE	WESTERMEYER HOLLY ROSE	1	
23-7664-08030	410 3RD AVE	HULTGREN GORDON P & TERRI L	1	
23-7664-08040	416 3RD AVE	ANDERSON SHARON A	1	
23-7664-08130	415 2ND AVE	FARLEIGH TRAVIS	1	
23-7664-08140	411 2ND AVE	JACOBY JON JR	1	
23-7664-08150	405 2ND AVE	GRADEN BRANDON & SHELBY	1	
23-7664-08160	403 2ND AVE	FARAH LORALEE C & ROBERT M JR	1	
Total Number of Units			16	

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### Alley North of 3rd Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7640-08010	334 4TH AVE	CARR JAMES R + ULANOWSKI JESSICA A	1	
23-7640-08020	332 4TH AVE	GEAROU DAVID C & BONNIE LEE	1	
23-7640-08030	328 4TH AVE	SOLEY WILLIAM H & ELLYNE N	1	
23-7640-08040	322 4TH AVE	WALKER ANITA J	1	
23-7640-08050	320 4TH AVE	UREMOVICH JAYMES L & NADINE L	1	
23-7640-08060	316 4TH AVE	ZWASCHKA KARL D & ANGELA N	1	
23-7640-08070	312 4TH AVE	GATES RICHARD	1	
23-7640-08080	306 4TH AVE	WALTERS R P & G L JT LIV TR 12-7-07	1	
23-7640-08090	302 4TH AVE	HAINES JOSHUA I & ERICA	1	
23-7640-09010	333 3RD AVE	BALDES THOMAS G ET UX	1	
23-7640-09020	331 3RD AVE	PLATCEK ANTHONY DOUGLAS	1	
23-7640-09030	327 3RD AVE	STIPE LISA LEHRKE & JOHN E	1	
23-7640-09040	325 3RD AVE	FURO DEANNE L	1	
23-7640-09045		GORMAN NADINE L + UREMOVICH JAYMES	0	Connected to 23-7640-09050.
23-7640-09050	323 3RD AVE	GORMAN NADINE L + UREMOVICH JAYMES	1	
23-7640-09060	313 3RD AVE	BEAMER RYAN & CASSI	1	
23-7640-09070	309 3RD AVE	JACKSON JEFFREY R	1	
23-7640-09080	305 3RD AVE	MACKEY MARY S	1	
23-7640-09090	301 3RD AVE	LOBBESTAEL NEIL A & CRYSTAL L	1	
Total Number of Units			18	

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### Alley North of 4th Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7660-19090	531 4TH AVE	KUNNARI SHAWN J & SAMANTHA J	1	
23-7660-19100	525 4TH AVE	TRANAH HOLDINGS LLC	1	
23-7660-19110	523 4TH AVE	AILI NATHANIEL	1	
23-7660-19120	517 4TH AVE	LAFONTAINE ANDREW J & JORDAN M	1	
23-7660-19130	513 4TH AVE	JONES BRADLEY J & JANELLE A	1	
23-7660-19140	509 4TH AVE	HENDRICKSON SCOTT R ET UX	1	
23-7660-19150	505 4TH AVE	ANDERSON WAYNE ET UX	1	
23-7660-19155		KLINKER DAVID	0	Connected to 23-7660-19160.
23-7660-19160	413 5TH ST	KLINKER DAVID	1	
23-7661-26010	502 5TH AVE	TRANAH HELEN TRUST U/A/D 4-19-04	1	
23-7661-26020	508 5TH AVE	DEWEY KATHY ANN & SHAWN N	1	
23-7661-26030	512 5TH AVE	DEWEY SHAWN & KATHY	0	Non-buildable parcel.
23-7661-26035		KLINKER DAVID JESS	0	Non-buildable parcel.
23-7661-26040	516 5TH AVE	MARTTINEN SAMUEL & DJONICA	1	
23-7661-26045	514 5TH AVE	DEWEY SHAWN N	1	
23-7661-26050	520 5TH AVE	HARRINGTON LEILANI K	1	
23-7661-26060	522 5TH AVE	RAISANEN CALVIN	1	
23-7661-26070	528 5TH AVE	LYNCH LORI JO	1	
23-7661-26080	530 5TH AVE	RINE JACKI A	1	
Total Number of Units			16	

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### Alley North of 7th Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7662-41010	721 7TH ST	POE JAMES F JR	1	
23-7662-41020	706 8TH AVE	DETLEFSEN BRITTANY J	1	
23-7662-41030	712 8TH AVE	MARKSMEIER DUANE R ET UX	1	
23-7662-41040	714 8TH AVE	MACMILLAN KELLEY A	1	
23-7662-41050	718 8TH AVE	TOWERS STANLEY A ET UX	1	
23-7662-41060	722 8TH AVE	ALVAREZ JULIA A	1	
23-7662-41070	726 8TH AVE	BELL SANDRA K	1	
23-7662-41080	732 8TH AVE	PERRY SARA H + NELSON JACOB D	1	
23-7662-41090	731 7TH AVE	WITTLIEF JOANNE C	1	
23-7662-41100		WITTLIEF JOANNE C	1	Buildable. Used in conjunction with 23-7662-41090.
23-7662-41110	721 7TH AVE	LYNCH ROBERT W & NANCY L	1	
23-7662-41120	717 7TH AVE	LUSK DANIEL P	1	
23-7662-41130	713 7TH AVE	BRYKI SARA JEAN	1	
23-7662-41140	711 7TH AVE	KEMPFFER BRYAN	1	
23-7662-41150	707 7TH AVE	DALRYMPLE CORRINE	1	
23-7662-41165	701 7TH AVE	ARROWHEAD REGION PROPERTY MGMT	1	
<b>Total Number of Units</b>			<b>16</b>	

## APPENDIX C-1

### SUMMARY PARCEL LIST 2018 STREET AND ALLEY IMPROVEMENT PROJECT City of Two Harbors, MN

#### Alley North of 8th Avenue

Parcel Number	Property Address	Owner	Lot Count	Notes
23-7662-46012	815 7TH ST	SCHMIDT OLIVIA JULE & RYAN EVAN	1	
23-7662-46020	708 9TH AVE	DOWNS JOHN D ET UX	1	
23-7662-46030	712 9TH AVE	COOLEY DAVID A	1	
23-7662-46040	716 9TH AVE	RABOLD WILLIAM M ET UX	1	
23-7662-46050	718 9TH AVE	WESTERMEYER JEANINE M	1	
23-7662-46060	724 9TH AVE	STORY JILL M	1	
23-7662-46070	728 9TH AVE	SKOOG RICHARD E	1	
23-7662-46080	732 9TH AVE	NIEMAN MARCIA K	1	
23-7662-46090	731 8TH AVE	JOHNSTON ANDREW L	1	
23-7662-46100	727 8TH AVE	PINSKE DIANNA & LARRY	1	
23-7662-46110	721 8TH AVE	BOLEN TIMOTHY R & CINDI M	1	
23-7662-46120	719 8TH AVE	DECHANTAL BAMBI	1	
23-7662-46130	715 8TH AVE	ARROWHEAD REGION PROPERTY MGMT LLC	1	
23-7662-46140	711 8TH AVE	HAFFIELD MICHAEL LESLIE	1	
23-7662-46150		HAFFIELD MICHAEL LESLIE	1	Buildable. Used in conjunction with 23-7662-46140.
23-7662-46160	701 8TH AVE	ENGEL PAUL B	1	
<b>Total Number of Units</b>			<b>16</b>	

APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

9th Avenue

Parcel Number	Property Address	Owner	Street (50%)	Sidewalk (50%)	Storm Sewer (50%)	Sanitary Sewer (25%)	Sanitary Service (100%)	Water (25%)	Water Service (100%)	TOTAL
23-7662-47010	602 9TH AVE	HANSON CHRISTOPHER J	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47020	606 9TH AVE	FALK DONALD R ET UX	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47030	610 9TH AVE	SINES BENJAMIN W	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47040	614 9TH AVE	SEIPKE JAMES M	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47050	620 9TH AVE	THOMAS TODD A & JONI M	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47060	624 9TH AVE	LARSON STEVEN A	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47070	626 9TH AVE	LUNDGREN JESSE R	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7662-47080	628 9TH AVE	ANDERSON JOHN O & BARBARA J	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 3,528.13	\$ 19,157.97
23-7663-54090	631 9TH AVE	SUNDBERG MANDY A & CONNOR	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54100	627 9TH AVE	SWANSON STEVEN D	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54110	621 9TH AVE	NELSON ERIC S & CYBELLE	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54120	619 9TH AVE	BARTELT CLARK	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54130	613 9TH AVE	LAMPELA DENNIS J & AMBUR S	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54140	611 9TH AVE	JOHNSON PHILLIP A & LYNDA D	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54150	605 9TH AVE	LANIGAN EVA M	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
23-7663-54160	601 9TH AVE	BATA JOSEPH W & KATHY R	\$ 7,320.31	\$ 2,277.50	\$ 2,363.44	\$ 677.34	\$ 2,146.88	\$ 844.38	\$ 2,128.13	\$ 17,757.97
Totals			\$ 117,125.00	\$ 36,440.00	\$ 37,815.00	\$ 10,837.50	\$ 34,350.00	\$ 13,510.00	\$ 45,250.00	\$ 295,327.50



APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

9th Street

Parcel Number	Property Address	Owner	Street (25%)	Sidewalk (50%)	Storm Sewer (50%)	Sanitary Sewer (25%)	Sanitary Service (100%)	Water (25%)	Water Service (100%)	TOTAL
23-7663-58010	902 11TH AVE	HOULE ADDISON D	\$ 8,478.13	\$ 846.25	\$ 3,638.75	\$ -	\$ -	\$ -	\$ -	\$ 12,963.13
23-7663-58160	903 10TH AVE	CARDINAL SUE I +LILLEGAARD DANIEL J	\$ 8,478.13	\$ 846.25	\$ 3,638.75	\$ -	\$ -	\$ -	\$ -	\$ 12,963.13
23-7663-59080	832 11TH AVE	EWINSKI STEPHEN P & RACHEL K	\$ 8,478.13	\$ 846.25	\$ 3,638.75	\$ -	\$ -	\$ -	\$ -	\$ 12,963.13
23-7663-59090	831 10TH AVE	LUECK JOSHUA H	\$ 8,478.13	\$ 846.25	\$ 3,638.75	\$ -	\$ -	\$ -	\$ -	\$ 12,963.13
Totals			\$ 33,912.50	\$ 3,385.00	\$ 14,555.00	\$ -	\$ -	\$ -	\$ -	\$ 51,852.50

9th Street - Optional Sidewalk

Parcel Number	Property Address	Owner	TOTAL (Base Impts.)	Street Adjustment (25%)	Sidewalk: West (50%)	TOTAL with West Sidewalk	TOTAL (Base Impts.)	Street Adjustment (25%)	Sidewalk: East (50%)	TOTAL with East Sidewalk
23-7663-58010	902 11TH AVE	HOULE ADDISON D	\$ 12,963.13	\$ (32.50)	\$ 2,312.50	\$ 15,243.13	\$ 12,963.13	\$ 152.50	\$ 2,591.25	\$ 15,706.88
23-7663-58160	903 10TH AVE	CARDINAL SUE I +LILLEGAARD DANIEL J	\$ 12,963.13	\$ (32.50)	\$ 2,312.50	\$ 15,243.13	\$ 12,963.13	\$ 152.50	\$ 2,591.25	\$ 15,706.88
23-7663-59080	832 11TH AVE	EWINSKI STEPHEN P & RACHEL K	\$ 12,963.13	\$ (32.50)	\$ 2,312.50	\$ 15,243.13	\$ 12,963.13	\$ 152.50	\$ 2,591.25	\$ 15,706.88
23-7663-59090	831 10TH AVE	LUECK JOSHUA H	\$ 12,963.13	\$ (32.50)	\$ 2,312.50	\$ 15,243.13	\$ 12,963.13	\$ 152.50	\$ 2,591.25	\$ 15,706.88
Totals			\$ 51,852.50	\$ (130.00)	\$ 9,250.00	\$ 60,972.50	\$ 51,852.50	\$ 610.00	\$ 10,365.00	\$ 62,827.50

13th Street

Parcel Number	Property Address	Owner	Street (25%)	Sidewalk (50%)	Storm Sewer (50%)	Sanitary Sewer (25%)	Sanitary Service (100%)	Water (25%)	Water Service (100%)	TOTAL
23-7648-01090	1233 7TH AVE	O'REILLY AUTO ENTERPRISES LLC	\$ 10,704.38	\$ -	\$ 11,873.75	\$ 391.25	\$ -	\$ -	\$ -	\$ 22,969.38
23-7648-01100		MYRDAL NEAL R & LAURIE M	\$ 10,704.38	\$ -	\$ 11,873.75	\$ 391.25	\$ -	\$ -	\$ -	\$ 22,969.38
23-7648-02010	1303 7TH AVE	MYRDAL NEAL & LAURIE	\$ 10,704.38	\$ -	\$ 11,873.75	\$ 391.25	\$ 1,340.00	\$ -	\$ -	\$ 24,309.38
23-7648-02160	1302 8TH AVE	JOHNSON TERRANCE L & LOUISE I	\$ 10,704.38	\$ -	\$ 11,873.75	\$ 391.25	\$ 1,340.00	\$ -	\$ -	\$ 24,309.38
Totals			\$ 42,817.50	\$ -	\$ 47,495.00	\$ 1,565.00	\$ 2,680.00	\$ -	\$ -	\$ 94,557.50

APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

Alley North of 2nd Avenue

Parcel Number	Property Address	Owner	Alley (50%)	Sidewalk (50%)	Storm Sewer (50%)	TOTAL	Paving (50%)	TOTAL (50% Paving)	Paving (100%)	TOTAL (100% Paving)
23-7660-08050	418 3RD AVE	TRANAH HOLDINGS LLC	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08060	424 3RD AVE	WILLIAMS JAMES D & C CHRISTINE	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08070	426 3RD AVE	ANDERSON SHARON A	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08074		TRUSCOTT CHARLES W ET UX	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23-7660-08083	218 5TH ST	TRUSCOTT CHARLES W ET UX	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08090	431 2ND AVE	BRENNA RANDALL A	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08100	427 2ND AVE	ANDERSON CURTIS C & DEBORA L	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08110	421 2ND AVE	PARON DEAN & JILL	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7660-08120	417 2ND AVE	LEVY MELISSA A	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08010	404 3RD AVE	HEFTER URIAH J & HEATHER C	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08020	406 3RD AVE	WESTERMEYER HOLLY ROSE	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08030	410 3RD AVE	HULTGREN GORDON P & TERRI L	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08040	416 3RD AVE	ANDERSON SHARON A	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08130	415 2ND AVE	FARLEIGH TRAVIS	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08140	411 2ND AVE	JACOBY JON JR	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08150	405 2ND AVE	GRADEN BRANDON & SHELBY	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
23-7664-08160	403 2ND AVE	FARAH LORALEE C & ROBERT M JR	\$ 2,960.94	\$ 90.94	\$ -	\$ 3,051.88	\$ 482.50	\$ 3,534.38	\$ 965.00	\$ 4,016.88
Totals			\$ 47,375.00	\$ 1,455.00	\$ -	\$ 48,830.00	\$ 7,720.00	\$ 56,550.00	\$ 15,440.00	\$ 64,270.00

APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

Alley North of 3rd Avenue

Parcel Number	Property Address	Owner	Alley (50%)	Sidewalk (50%)	Storm Sewer (50%)	TOTAL	Paving (50%)	TOTAL (50% Paving)	Paving (100%)	TOTAL (100% Paving)
23-7640-08010	334 4TH AVE	CARR JAMES R + ULANOWSKI JESSICA A	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08020	332 4TH AVE	GEAROU DAVID C & BONNIE LEE	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08030	328 4TH AVE	SOLEY WILLIAM H & ELLYNE N	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08040	322 4TH AVE	WALKER ANITA J	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08050	320 4TH AVE	UREMOVICH JAYMES L & NADINE L	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08060	316 4TH AVE	ZWASCHKA KARL D & ANGELA N	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08070	312 4TH AVE	GATES RICHARD	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08080	306 4TH AVE	WALTERS R P & G L JT LIV TR 12-7-07	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-08090	302 4TH AVE	HAINES JOSHUA I & ERICA	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09010	333 3RD AVE	BALDES THOMAS G ET UX	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09020	331 3RD AVE	PLATCEK ANTHONY DOUGLAS	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09030	327 3RD AVE	STIPE LISA LEHRKE & JOHN E	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09040	325 3RD AVE	FURO DEANNE L	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09045		GORMAN NADINE L + UREMOVICH JAYMES	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23-7640-09050	323 3RD AVE	GORMAN NADINE L + UREMOVICH JAYMES	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09060	313 3RD AVE	BEAMER RYAN & CASSI	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09070	309 3RD AVE	JACKSON JEFFREY R	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09080	305 3RD AVE	MACKEY MARY S	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
23-7640-09090	301 3RD AVE	LOBBESTAEL NEIL A & CRYSTAL L	\$ 3,402.50	\$ 137.50	\$ -	\$ 3,540.00	\$ 504.17	\$ 4,044.17	\$ 1,008.33	\$ 4,548.33
Totals			\$ 61,245.00	\$ 2,475.00	\$ -	\$ 63,720.00	\$ 9,075.00	\$ 72,795.00	\$ 18,150.00	\$ 81,870.00

APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

Alley North of 4th Avenue

Parcel Number	Property Address	Owner	Alley (50%)	Sidewalk (50%)	Storm Sewer (50%)	TOTAL	Paving (50%)	TOTAL (50% Paving)	Paving (100%)	TOTAL (100% Paving)
23-7660-19090	531 4TH AVE	KUNNARI SHAWN J & SAMANTHA J	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19100	525 4TH AVE	TRANAH HOLDINGS LLC	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19110	523 4TH AVE	AILI NATHANIEL	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19120	517 4TH AVE	LAFONTAINE ANDREW J & JORDAN M	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19130	513 4TH AVE	JONES BRADLEY J & JANELLE A	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19140	509 4TH AVE	HENDRICKSON SCOTT R ET UX	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19150	505 4TH AVE	ANDERSON WAYNE ET UX	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7660-19155		KLINKER DAVID	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23-7660-19160	413 5TH ST	KLINKER DAVID	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26010	502 5TH AVE	TRANAH HELEN TRUST U/A/D 4-19-04	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26020	508 5TH AVE	DEWEY KATHY ANN & SHAWN N	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26030	512 5TH AVE	DEWEY SHAWN & KATHY	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23-7661-26035		KLINKER DAVID JESS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
23-7661-26040	516 5TH AVE	MARTTINEN SAMUEL & DJONICA	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26045	514 5TH AVE	DEWEY SHAWN N	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26050	520 5TH AVE	HARRINGTON LEILANI K	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26060	522 5TH AVE	RAISANEN CALVIN	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26070	528 5TH AVE	LYNCH LORI JO	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
23-7661-26080	530 5TH AVE	RINE JACKI A	\$ 2,430.31	\$ 90.94	\$ -	\$ 2,521.25	\$ 500.63	\$ 3,021.88	\$ 1,001.25	\$ 3,522.50
Totals			\$ 38,885.00	\$ 1,455.00	\$ -	\$ 40,340.00	\$ 8,010.00	\$ 48,350.00	\$ 16,020.00	\$ 56,360.00

APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

Alley North of 7th Avenue

Parcel Number	Property Address	Owner	Alley (50%)	Sidewalk (50%)	Storm Sewer (50%)	TOTAL	Paving (50%)	TOTAL (50% Paving)	Paving (100%)	TOTAL (100% Paving)
23-7662-41010	721 7TH ST	POE JAMES F JR	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41020	706 8TH AVE	DETLEFSEN BRITTANY J	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41030	712 8TH AVE	MARKSMEIER DUANE R ET UX	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41040	714 8TH AVE	MACMILLAN KELLEY A	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41050	718 8TH AVE	TOWERS STANLEY A ET UX	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41060	722 8TH AVE	ALVAREZ JULIA A	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41070	726 8TH AVE	BELL SANDRA K	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41080	732 8TH AVE	PERRY SARA H + NELSON JACOB D	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41090	731 7TH AVE	WITTLIEF JOANNE C	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41100		WITTLIEF JOANNE C	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41110	721 7TH AVE	LYNCH ROBERT W & NANCY L	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41120	717 7TH AVE	LUSK DANIEL P	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41130	713 7TH AVE	BRYKI SARA JEAN	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41140	711 7TH AVE	KEMPFER BRYAN	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41150	707 7TH AVE	DALRYMPLE CORRINE	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
23-7662-41165	701 7TH AVE	ARROWHEAD REGION PROPERTY MGMT	\$ 2,718.75	\$ 45.63	\$ -	\$ 2,764.38	\$ 500.63	\$ 3,265.00	\$ 1,001.25	\$ 3,765.63
Totals			\$ 43,500.00	\$ 730.00	\$ -	\$ 44,230.00	\$ 8,010.00	\$ 52,240.00	\$ 16,020.00	\$ 60,250.00



APPENDIX C-2

PRELINMINARY ASSESSMENT ROLL  
2018 STREET AND ALLEY IMPROVEMENT PROJECT  
City of Two Harbors, MN

Alley North of 8th Avenue

Parcel Number	Property Address	Owner	Alley (50%)	Sidewalk (50%)	Storm Sewer (50%)	TOTAL	Paving (50%)	TOTAL (50% Paving)	Paving (100%)	TOTAL (100% Paving)
23-7662-46012	815 7TH ST	SCHMIDT OLIVIA JULE & RYAN EVAN	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46020	708 9TH AVE	DOWNS JOHN D ET UX	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46030	712 9TH AVE	COOLEY DAVID A	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46040	716 9TH AVE	RABOLD WILLIAM M ET UX	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46050	718 9TH AVE	WESTERMEYER JEANINE M	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46060	724 9TH AVE	STORY JILL M	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46070	728 9TH AVE	SKOOG RICHARD E	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46080	732 9TH AVE	NIEMAN MARCIA K	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46090	731 8TH AVE	JOHNSTON ANDREW L	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46100	727 8TH AVE	PINSKE DIANNA & LARRY	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46110	721 8TH AVE	BOLEN TIMOTHY R & CINDI M	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46120	719 8TH AVE	DECHANTAL BAMBI	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46130	715 8TH AVE	ARROWHEAD REGION PROPERTY MGMT LLC	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46140	711 8TH AVE	HAFFIELD MICHAEL LESLIE	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46150		HAFFIELD MICHAEL LESLIE	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
23-7662-46160	701 8TH AVE	ENGEL PAUL B	\$ 3,390.63	\$ 44.69	\$ 1,057.81	\$ 4,493.13	\$ 500.63	\$ 4,993.75	\$ 1,001.25	\$ 5,494.38
Totals			\$ 54,250.00	\$ 715.00	\$ 16,925.00	\$ 71,890.00	\$ 8,010.00	\$ 79,900.00	\$ 16,020.00	\$ 87,910.00